Administration Report

of the

Department of Industries and Commerce United Provinces

For the year ending 31st March, 1941

ALLAHABAD:
SUPERINTENDENT, PRINTING AND STATIONERY, UNITED PROVINCES, INDIA
1941

Price, 10 annas.]

ISSUE SLIP

Date of Issue	Issue Number	Date of Issue	Issue Number

Administration Report

of the

Department of Industries and Commerce United Provinces

For the year ending 31st March, 1941

ALLAHABAD:
SUPERINTENDENT, PRINTING AND STATIONERY, UNITED PROVINCES, INDIA
1941

INDEX

Administration Report of the Department of Industries and Commerce, United Provinces, for the year ending 31st March, 1941

CHAPTER I

INTRODUCTORY

I held charge of the office of the Director of Industries and Commerce throughout the year and of the Labour Commissioner, United Privinces, in addition to my own duties up to the 18th April, 1940 (forenoon), when I was relieved by a whole-time Labour Commissioner. I also continued to act as the Stores Purchase Officer. The post of the Principal, Harcourt Butler Technological Institute, Cawnpore, remained in abeyance as before, but it was held by me *ex-officio*.

2. Mr. M. B. Hudlikar, M.SC. (Leeds) continued to act as Deputy Director of Industries (Education) throughout the year.

1940-41

Financial—The budget grant for the department was Rs.21,48,965 as against Rs.27,13,060 of the previous year. The actual expenditure amounted to Rs.31,05,508. The decrease in the grant was the nett result of the following additions and alterations :

(1) Provision for the following industrial schemes and Industrial and Technical Education was reduced as shown below :

	Rs.
(i) Harcourt Butler Technological Institute, Cawnpore	20,259
(ii) Technical and Industrial Institutions—	
Pay of Officers	8,815
Pay of establishment	7,875
Contingencies	2,86,758
(iii) Industrial development—	
Subsidy for a credit company for small and minor industries	10,000
Development of Gur Industries	25,000
Development of Cottage Oil industry	5,000
Development of Raw Hide Industry	5,491
Development of Woollen Industry	47,675
(iv) Grants-in-aid	84,000
(v) Charges in England	18,160

(2) Provision for the following industrial schemes was deleted :

	Rs.
(*i*) Industrial development—Improvement and development of hand-spun and hand-woven cloth	20,000
(*ii*) Miscellaneous—	
Survey of Cottage and Minor Industries	13,682
Mineral Survey	5,760
Investigation of practical scheme for Industrial Development ..	13,000
Grant to Benares Hindu University for research schemes ..	25,000
(*iii*) Lump sum provision for improving the pay of inferior servants and for their leave salaries	7,297
(*iv*) Minor variations under various heads	1,612

(3) Additional provision as shown below was made for :

	Rs.
(*i*) General Direction	3,285
(*ii*) Technical and Industrial Institutions—Allowances and Honoraria	2,309
(*iii*) Development of Handloom Industry	4,000
(*iv*) Development of Sann hemp fibre industry	400
(*v*) Development of Glass Industry	30,500
(*vi*) Labour Officer's establishment	795
Total ..	5,64,095

General Policy—The general policy of the department remained materially unchanged during the year. The Department continued to assist industries by (1) imparting training in technical and industrial institutions, (2) giving grants, (3) expert technical advice, (4) conducting researches, experiments and demonstrations, (5) disseminating commercial and industrial information, (6) marketing the products of art and industry, (7) participation in exhibition and fairs, (8) Stores Purchase and (9) Developing of various industrial schemes. As a result of war conditions the award of foreign technical scholarships was postponed. Assistance towards war efforts was rendered by the Department by arranging training for war technicians and organizing cottage workers for manufacture of various articles required for military purposes.

CHAPTER II

General Survey of Trade Conditions

General—The opening month of the year under review did not witness any change in the price level. The Index Number stood at 121. Due to lack of shipping facilities and the loss of overseas markets to India, conditions gradually deteriorated during the next three months, till the general Index Number came down to 114 in July. August, however, showed signs of improvement and subsequent months registered appreciable rise in the price level and despite persistent decline in the case of certain commodities, the General Index Number rose to 1,122. In February, again there was some lull in market and the General Index Number receded to 119. The decline was distributed over all the commodities. Taking the ye r as a whole all commodities except tea, metal, textile and jute manufactures suffered but raw jute, sugar, oil-seeds were more unfortunate than others.

Foreign trade—Owing to want of shipping facilities and loss of European markets to India, the total value of her foreign trade, exports and imports, was much less this year than last year.

The imports during the year under review amounted to 156·79 crores as against 165·27 crores in 1939-40 and the total exports showed a marked decline to 198·71 crores from 213·6 crores in the previous year. The balance of trade of British India in merchandise was favourable to the extent of Rs.41·92 crores in 1940-41 as compared with 48·33 crores in 1939-40.

Food, drink and tobacco have suffered to an extent of 11·47 crores and manufactured goods to an extent of Rs.2·32 crores, the chief fall in the former being in grain, pulse and sugar and in the latter being in the machinery of all kinds, cotton yarns and manufactures. There has, however, been a noticeable rise of Rs.5·81 crores in the import of raw materials and articles mainly unmanufactured, mainly in raw wool and vegetable oils.

In the exports of Indian merchandise, there has been an appreciable fall of Rs.24·10 crores in raw materials and articles unmanufactured (chiefly) in oil cakes, oil-seeds, raw and waste cotton, raw jute and raw wool. Raw jute has suffered a set back to an extent of Rs.12 crores and raw and waste cotton of about 7 crores. The export of raw wool also declined by 1·5 crores. On the other hand there has been a slight increase of about 2 crores in the export of food, drinks, tobacco and of about 5 crores in manufactured articles. The chief gainers in the latter have been metal and cotton yarn and cotton manufactures.

Trade agreements—Indo-British trade was governed by the Indo-British Trade Agreement, 1939. The Indo-Japanese Protocol to the Trade Convention entered into in April, 1937, governing imports of

Japanese cotton piece goods into India, expired on the 31st March, 1940.

Notice was given to terminate the Indo-Burma Trade Agreement entered into in 1937. This marked the termination of the previous era of free trade between the two countries and would inaugurate a regime of mutual preferential treatment.

Finance—The money market remained in a plethoric condition throughout the year. The banks positively spurned deposits except for long periods. The Inter Bank Call rate which in the beginning of the year was ¾ per cent. remained almost at the same level throughout the first month, but for the rest of the year it was pegged to ½ per cent. and occasionally fluctuated between ¼ and ¾ per cent. Even the usual seasonal demand did not appear to produce any effect on it. The Reserve Bank Rate remained stationery at 3 per cent. throughout the year. As in previous years, the rupee continued to be linked to the sterling on the same old basis of 1*s.* 6*d.* per rupee.

There were wide fluctuations in the gold and silver market during the year under review. The price of gold stood at the same level of Rs.42-8 per tola in April, as in the closing month of the last year and fluctuated between narrow limits of two to four annas till the middle of May But the march of events in Europe forced up the gold price to Rs.48-8. How wide and sharp the fluctuations have been can be gauged from the fact that prices receded after some time and on the 2nd July, the lowest price of the year, viz. Rs.41-3 per tola was recorded, after which it again showed an upward trend and the April price of Rs.42-8 was restored by the end of August. From then up to the middle of February, the prices fluctuated between Rs.42-8 and Rs.41-12. The gold price again soared up and when the year closed it was Rs. 43-13 per tola.

The silver price was no less erratic than the gold one. The opening month witnessed the lowest price, viz. Rs.55-12 of the year, but later on the price began to exhibit an upward tendency and factors which influenced the price of gold to touch the highest level, forced the silver price to move up to the highest limit of Rs.64-14 towards the end of May. For three months, May, June and July, the silver market was dominated by the grave developments in Europe and prices fluctuated between Rs.62 and Rs.64. In the month of August, the range of fluctuations was narrowed down from Rs.63 to Rs.64 and the prices remained more in the neighbourhood of Rs.64. A downward tendency, however, set in in the following months and in the month of December, the price ruled at Rs.61 per 100 tolas. The new calendar year again forced up the silver price and the limit of Rs.63 was recrossed, to be maintained throughout the last three months. When the year closed, the price of silver was Rs.63-7 per 100 tola.

CHAPTER III

Condition of Principal Industries

Major Industries

Textiles—The price of cotton was near about Rs.245 in April, 1940, but reached the lowest limit of about Rs.154 per candy in July, 1940. In March, 1941, it reached the peak price of Rs.249. On 31st March, 1941, Broach cotton stood at Rs.238 per candy. The All-India cotton crop forecast for 1940-41 shows an acreage of 22,775,000. The figure registers a rise of 9 per cent. over the previous year. The All-India Cotton Production forecast for 1940-41 shows a rise of 15 per cent. and amounts to 5,638,000 bales. The surplus of Indian cotton, particularly short staple continues to be a problem owing to difficulties of export.

Cotton ginning and pressing—During the year under report 105,032 bales of cotton were pressed as against 103,042 bales of last year.

Cotton weaving—Throughout the year the demand for cloth and yarn was good and mills raised their prices. Long cloth (37″ × 37½ yds. × 9 lbs.) was 12 annas 7 pies per lb. on the 28th March, 1941, as against 11 annas per lb. on the 1st April, 1940. Prices of yarn for 10½ Bazar quality was 5 annas 6½ pies per lb. on the 31st March, 1941, as against 5 annas per lb. in April, 1940. During June 1940, the Bazar business for cloth and yarn came practically to a standstill but improvement in prices was maintained particularly in these Provinces due to the large share in Government orders which the mills secured. The United Provinces were particularly fortunate in securing a large proportion of tent orders and several of the mills started new tent departments. The stocks of cloth remained at reasonable levels during the year. The production of khaki goods attained the maximum.

Wool—The wool season in Australia gave a record clip and even then it secured 50 per cent. higher value. In New Zealand the wool clip secured a 36 per cent. rise in value.. On the other hand wool produced in this country and sold under East India Wools secured a rise of 13 per cent. Owing to a large demand for barrack blankets, the price of black wool is higher than that of white.

Wool manufacture—The mills were almost wholly engaged in woollen manufacture for the requirement of the Defence Services and very little woollen goods and yarns were therefore produced for civil use. The civil supply depends mainly on cottage manufacturers.

Jute—There are three jute mills in the Province and they are mainly engaged on heavy types of goods although one of them produces hessians. The pre-war price of raw Jute was Rs.10 per maund whereas

it is below Rs.5. On the other hand price of D.W. bags pre-war was Rs.24 for 100 bags as against present price of Rs.35. In consequence of foreign and bazar business, the local jute mills have been doing very well and have not got even the normal stocks with them in their godowns.

Hosiery—The cotton mills which have their own hosiery departments did well during the year but many of the other hosiery factories had to stop working chiefly because of the difficulty of securing hosiery yarns. Those hosiery factories which secured Government orders and could secure their woollen yarns through the Wool Liaison Officer showed satisfactory results.

Sugar Industry

Cane crop—According to the final general memorandum issued by the Director General of Commercial Intelligence and Statistics, the area under sugarcane in the United Provinces in the season 1940-41 was 2,539,000 acres (37,000 acres being in the Rampur State) as against 1,914,000 acres in 1939-40. The total yield of raw sugar (*gur*) was estimated at 2,864,000 tons (35,000 tons being in the Rampur State) as compared with 2,177,000 tons in 1939-40. The estimated area under the improved varieties of cane was 230,000 acres and the estimated yield of *gur* from the improved varieties was 2,645,000 tons.

October was mostly rainless and the growth of the crop was retarded in all parts of the Province. November and the first and the last weeks of December were also practically rainless. The rainfall in the second and the third week of December, was, however, generally above the normal and proved beneficial to the crop. For the Province as a whole the yield was estimated at 91 per cent. of the normal as against 90 per cent. in 1939-40.

Sugar manufacture—The United Provinces had a record output of sugar in 1939-40. Demand in the other hand was poor and when the season for 1940-41 opened the factories had heavy stocks of unsold sugar with them. With unrestricted production in 1940-41 surplus stocks would have mounted up by the end of the season to unmanageable proportions. Government, therefore, took action under the Sugar Factories Control Act, to restrict the production of factories by means of a system of quotas. Crushing quotas were allotted to factories on the basis of an estimated output for the whole Province of 4·85 lacs tons of sugar. But owing to the extraction of a higher percentage of sugar, the sugar output for the Province during the season is estimated at 510,200 lacs tons. The number of factories working is reported to be seventy.

Refining Industry—As a result of the restriction of cane sugar production and ample supplies of cane there has been a very heavy output of *gur* in the Province during the year. The raw material

for the refining industry will, therefore, be abundant and cheap. The output of *gur* sugar is estimated at 32,400 tons which is more than double the quantity of sugar produced in 1940. Six factories worked with *gur* during the year. The total quantity of *gur* melted is estimated at 62,700 tons. The recovery of sugar per cent. *gur* is, however, expected to be considerably lower in 1941 than in 1940, the estimated recovery in 1941 being 51·7 per cent. against the actual recovery of 56·7 per cent. in 1940.

Leather Industry

Hides and skins—Owing to shipping difficulties export of hides and skins was much below expectations. Hides and skins of superior selection were absorbed in the local market. Import of hides and skins to United Provinces however increased to a greater extent in comparison with that of the last year. Prices increased from 70 to 75 per cent.

Leather—Due to the demand for heavy leathers by the Defence Services, tanneries worked to capacity. Prices of chemicals required for chrome tanning rose considerably.

Boots and shoes—Because of conditions created by War imports of cheap canvas rubber shoes and also of raw materials required in the manufacture of boots and shoes stopped completely which resulted in an increase in the prices of civil boots and shoes. Bata being the sole manufacturers of civil requirements now are gradually capturing the market. Cottage workers have suffered badly on account of the prices of boot materials having gone higher. They are leaving the field owing to keen competition from Bata, but Agra manufacturers are exporting civil requirements to other provinces to some extent.

Oil Industry

The vegetable oil industry of the Province is steadily progressing which can be seen from the export figures of oils and oil cakes from the United Provinces.

Export of vegetable oils and cakes from the United Provinces.

Year	Export of vegetable oils in maunds	Export of oil cakes in maunds
1935-36	528,832	1,342,863
1936-37	622,750	1,519,981
1937-38	551,459	1,441,559
1938-39	603,292	1,517,523
1939-40	970,211	1,403,158
From 1st April, 1940 to 31st July, 1940.. ..	368,870	478,145
For corresponding period last year 1st April 1939 to 31st July, 1939.	300,919	441,920

It will be seen that the export of oils from the United Provinces is increasing considerably.

Oil Seeds—The year has closed with a general depression in the oil seeds trade. The closing rates of mustard, linseed, groundnut and til seeds were appreciably lower than the pre-war rates, but castor seed rates, though much lower than the rates at the commencement of the year, were still higher than the pre-war rates. Mahua seed, however, was an exception to the general rule as it had a steady rise in price from Rs.3-8 per maund at the beginning to Rs.4-8 per maund at the close of the year.

Oils—The prices of vegetable oils, which had reached their peak in November, 1939, started going down after December, 1939, and generally continued their downward movement during the year until they came down, more or less, to the pre-war level. In the case of castor oil the lowering of prices is not so notable, the closing price of Rs.11-10 per maund being still higher than the pre-war price of about Rs.8 per maund. Mahua oil was a notable exception like Mahua seed and its price went up steadily from about Rs.11 per maund at the beginning of the year to Rs.14 per maund towards the close of the year.

During the year under report six new oil mills (two big and four of moderate size) have been erected in the United Provinces and four old oil mills have increased their production by substantial additions to their existing plants. Three of the existing oil mills have stopped crushing. The production of vegetable oils this year in the power driven mills of the Province is approximately 1,850,000 maunds.

In the year 1940-41 the production of bleached castor oil and refined groundnut oil has increased in the Province. The local mills held contracts for railways, Government departments and military for the following quantities (approximately):

(i) Bleached castor cil	325,000 gallons.
(ii) Castor oil ordinary	200,000 ,,

For the year 1941-42 they hold contracts for similar quantities at present.

During this year inspite of restricted facilities and distributed trade conditions of export, the Province has exported to foreign countries 40,000 gallons of bleached castor oil and 30,000 gallons of raw and boiled linseed oil.

Double Boiled Linseed Oil and Raw Linseed Oil Industry

There are now seven factories in the United Provinces manufacturing double boiled linseed oil. The industry is now very well established in the Province and these mills hold contracts for supply of raw

and double boiled oil to railways, Government departments and military. This year the quantity of raw and double boiled oil supplied to Government departments is over 160,000 gallons.

The production of double boiled oil in the United Provinces is over 280,000 gallons.

Hydrogenation and refining of oils—The industry is making good progress in the Province. During the year under report one more vegetable product factory has started working at Ghaziabad, having a capacity of about 25 tons per day.

The total production of hydrogenated oils in the United Provinces during 1940-41 was approximately 10,000 tons or 280,000 maunds. The total production of the Province today is about 60 tons or 16,800 maunds per day including the output of the new mill.

Oil Cakes—The year has seen even more notable depression in the oil market than in the oil-seeds. The rates of castor, groundnut, til and linseed cakes at the close of the year were considerably lower than those at the close of the previous year. This depression is due to stopping the export of oil cake to foreign countries.

Paper Industry

Mill-made paper—On account of the stoppage of imports of paper into India the two paper mills in United Provinces, viz. The U. I. Couper Paper Mills Company, Limited, Lucknow, and the Star Paper Mills, Saharanpur, had a prosperous year. Prices of raw materials and chemicals have increased with a consequent rise in the price of paper. All the turnover of the mills is consumed by the Civil and Military departments and whatever little is left is consumed in the market. The total production of paper and strawboard in the province during the year was 11,760 tons worth Rs.46,27,476 as against 11,334 tons worth Rs.36,45,165 of last year.

Glass Industry

The glass industry as a whole enjoyed exceptional prosperity and activity during the year. The eight hollow-ware factories in the United Provinces were very busy. The sheet glass factory at Bahjoi, the only factory of its kind in the whole of Northern India, could hardly cope with the pressure of orders. This factory conducted sales to the extent of Rs.9,49,717 as against Rs.5,18,000 of last year. The bangle industry of Ferozabad enjoyed the most prosperous times as they had no foreign competition due to stoppage of imports. The number of factories at Ferozabad is now 36. Five model joining shops were constructed for use of joiners. A modern recuperative pot furance was erected at Ganga Glass Works, Balawali and was subsidised by Government. They have also extended production

of laboratory and instrument glass. Various glass shaping and decorating machines were imported for the industry. Manufacture of fine glass beads is being taught at Benares by Czechoslovakian Experts. Glass of assorted colours used in the manufacture of beads which was originally imported is now manufactured in United Provinces. A modern glass bottle factory is being erected at Benares.

Wood Working

Demand for high class domestic and office furniture has been steady while there has been a good increase in the demand for woodwares required by the Defence Services. A number of factories installed modern machinery for the manufacture of war material and almost all of them were occupied with war orders. The wooden toy-making industry made a steady progress. The Ply-wood Factory at Sitapur worked full time throughout the year. The demand for wood-wool is continuously increasing. A new use of wood-wool has been found by the Insulcrete Company, Delhi for making "Insulcrete" building materials. Demand for bobbins has been on the increase.

Matches

The only match factory under the control of the Western India Match Manufacturing Company, Bareilly, had a prosperous year. They used local timber for splints and boxes. Market for matches was very unsteady throughout the year. Manufacturers introduced a rationing scheme for supplies and fixed a quota for each dealer on the basis of his previous requirements. Duty on matches was increased during the year, and hence the selling price had to be controlled by Government.

Minor Industries

Khandsari Sugar—The output of khansdari sugar for India is estimated at approximately 160,000 tons. Out of this it is estimated that 70 per cent. will be produced in the United Provinces.

Engineering Industries—A special feature developed in the industry of iron, mild steel and high carbon steel manufacture in these Provinces is the manufacture of billets from mild steel scrap. This scrap was not being utilized at all till the opening of the concern of Messrs. Juggilal Kamlapat Iron and Steel Factory at Cawnpore. Heavy turnings and small pieces of mild steel scrap were buried underground until nearly a year back. Now these are being dug up, utilized, and are fetching a high price. This is a new industry to this Province.

All the existing iron, mild steel and high carbon steel factories in the Province have made enormous profits during the year.

Manufacture of seals for cement and flour bags have been started by a United Provinces firm with imported raw material in the shape of coils of rolled steel strip, the supply of which has since stopped due to war. The firm has also taken up the manufacture of war supplies in the shape of buttons, brass catches, brass slides by the die and stamping process.

A Lucknow firm has successfully designed a duplicator which they exhibited and worked in the Government Glass and Cottage Industries Exhibition, Kaiserbagh, Lucknow, last December. It hopes to start shortly the manufacture on a mass production basis producing about 30 duplicators per month.

It has also been manufacturing various parts of typewriters and duplicators supplying the same all over India.

Another firm in Lucknow has produced glass moulds of iron and specialized in the line. It has been manufacturing iron furniture also and has made some heavy machines, e.g. rolling, commutator, segment cutting machine, etc. in addition to the manufacture of ceiling and table fans which it had taken up a few years back.

A Benares firm is engaged in the manufacture of small printing machines and small lathes. Another firm in Benares is engaged in making cycle carriers, cycle bells, chaff cutting machine, blades, etc. on mass production basis as it has installed huge stamping and punching machines.

Many of the small repairing workshops have been engaged in the manufacture of war supplies and have been able to effect great improvements in their business.

The Engineering Industries have prospered during the year under report specially as the supplies from foreign countries are practically cut off and war requirements are increasing.

Hardware and Electro-plating—Hinges and screws have assumed great importance since the war as their prices have gone up by more than 500 per cent.

Owing to the very great increase in prices small manufacturers have attempted the manufacture of hinges and a United Provinces firm has begun the manufacture of bibcocks, push cocks, patent elbow taps, water taps, wheel valves in various sizes. They are at present able to turn out about 70 dozens costing about 800 rupees and are not able to cope with the orders. They are also manufacturing building fittings. Scrap brass used as the raw material in these manufactures is becoming scarce and has gone up to 12 annas per seer compared with 7 annas pre-war rates.

There has been no appreciable improvement as far as electro-plating is concerned as nearly all the chemicals used are foreign, the supply of which is scarce and prices high.

Gold and Silver thread—The industry maintained its position during the year although fluctuations in rates of gold and silver affected the industry to some extent. The demand was encouraging as the weavers had ample work. The prices continued to remain high and ranged between annas 12 to Re.1-8 per tola according to quality of the material. Manufacturers did not undertake production for stocks, because of fluctuations in the rates of gold and silver.

Fountain Pens—This industry has made sufficient advance but further appreciable progress was not possible during the year under report owing to the scarcity of raw material, heavy costs and dwindling profits. The firms have increased their production but no new firms worth the name have been started.

Heavy Chemicals :—There are four factories in the Province producing mineral acids and heavy chemicals, which are situated at Cawnpore, Agra, Ghaziabad and Benares. Imported sulphur is still the key raw material of this industry. The Mining and Chemical Industries Limited, Jamuna Bridge, Agra, is the only concern which uses iron pyrites from near Tara Devi Hills as the indigenous substitute for imported sulphur. At present their consumption is about 2 tons of pyrites per day which they hope soon to raise to 4 tons per day.

The following heavy chemicals are generally manufactured :

(1) Sulphuric acid—commercial, pure and chemically pure.

(2) Hydrochloric acid—commercial, pure and chemically pure.

(3) Nitric acid—commercial, pure and chemically pure.

(4) Alum.

(5) Ferrous sulphate.

(6) Alumino ferric.

The production of sulphuric acid of chamber strength, which is the basis of the industry, is between 5 and 6 thousand tons.

The chief markets for the products, besides the United Provinces, are Delhi, Central Provinces, Bihar, Rajputana and the Punjab.

The production and sales have increased owing to the demand for war work but prices have not improved appreciably. There is no foreign competition but the industry has to meet very keen internal competition from Delhi and the Punjab factories. It is gratifying to note that one of the largest chemical factories in the Province has now taken up the regular manufacture of soda hypo and soda bichromate and supplies the materials regularly to the trade ; the firm has expressed the hope that protection would be given to these chemicals after the War, as indicated by the Government of India.

The indigenous manufacture of potash nitrate (salt-petre) in the province received a much needed push owing to the War and the prices rose up to Rs.10-8 per maund as against the pre-war rate of Rs.6, though this increase is small compared to that in the last War. Other heavy chemicals that are now manufactured in the Province are maize and wheat starches at Cawnpore. The condition of the industry was satisfactory and the manufacture and sales showed an increase of 10·5 per cent. Difficulties were, however, encountered in the purchase of new machinery for increasing the output.

One of the firms has prepared phosphoric acid on commercial scale from one of its bye-products and several firms have newly started making liquid Ammonia fort. for supplying increased demand.

Pharmaceutical Industry—There are four large-scale producers of galonical and spirituous preparations, three being situated at Cawnpore and one near Lucknow.

The pharmaceutical and drug industry of the Province suffered from heavy competition with other provinces. The prices of raw materials increased by about 20 per cent. whereas the increase in selling prices of the products was about 10 per cent. only. The large established firms of other provinces held stocks of raw and packing materials and could thus maintain the prices of finished articles at a low level thus cutting down the margin of profit.

The speciality of this Province, e.g., the Peroxine Brand of Hydrogen peroxide, manufactured by a Cawnpore firm, continued to meet a greatly increased demand from every part of the country. The Government took larger quantities. The total output was over 100,000 lbs. and the prices were kept down to pre-war level inspite of increases in prices of raw materials and bottles. Arrangements have been made for manufacturing the special bottles required in the country.

Scientific Instruments—On account of stoppage of imports of scientific instruments, Messrs. Scientific Instrument Company Limited, Allahabad and Messrs. Scientific Instruments and Chemical Works, Agra, did well. Another United Provinces firm (Messrs. Ganga Glass Works Limited, Balawali) also started manufacture of these instruments of high standard.

Locks and Cutlery—The lock industry is now a well established industry of the United Provinces, Aligarh holding a virtual monopoly of it.

Cutlery in the form of knives, scissors, etc. is manufactured at Aligarh, Hathras, Meerut, etc. but mostly it is hand work and there

is no standardization anywhere. Spoons, forks, etc. are manufactured on a large scale at Moradabad but they are casted. No mechanical process has yet been adopted except one or two hand presses.

Perambulators and Tricycles—Perambulators, tricycles and cycle parts are now being manufactured at Cawnpore and Meerut.

Soap—There are seven big soap factories in the United Provinces. Inspite of a sharp rise in the price of raw materials the factories made steady progress. They have secured contracts for 520,000 bars of washing and 150,000 lbs. of soft soaps. The total quantity of soap manufactured by the factories including small soap concerns is about 90,000 maunds worth over Rs.9,00,000.

Electric Bulbs—Messrs. Gopal Krishna Electric Lamp Works, Agra, who took over the management from Hindustan Electrical Lamp Works Limited, Agra, could not work successfully during the year. They have recently installed a power plant and have started manufacture of electric lamps.

Shoe-lace Industry—The Cawnpore Lace Works Limited, manufacturers of shoe laces did fairly well during the year on account of war supplies. The Swadeshi Lace Works, Meerut, worked for part of the year but had to close down due to scarcity of shoe lace pins.

Cottage Industries

General—Cottage industries were afforded a unique opportunity for rapid development in many directions because of the special conditions to which the war gave rise. While it is true that some industries began to languish and stagnate on account of the war, others found themselves forging ahead beyond expectations and on the whole the evil was more than outweighed by the good. Among the industries which have benefitted were wood work, glass, and leather workers and leather tanners carried on their business on cottage lines. Examples of industries which suffered are the chemicals, calico printing industry, carpet trade of Mirzapur and the export of Moradabad brassware.

Hand spinning and hand weaving—Large quantities of war material were supplied during the year by the handloom industry. The demand for handloom products was considerably augmented because of the unusual concentration of mills on production for war purposes. Rise in the prices of Indian and foreign yarn, however, brought about a reduction in the average profits of the weavers. Demand for *newar* continued to be heavy throughout the year and so the weavers took to *newar* weaving. Army *durries*, *patti* braces, etc. were also manufactured in large quantities.

Silk weaving—In spite of high rates of yarns, dyes and chemicals, gold and silver threads, the silk weaving industry of Benares continued to make headway. During the earlier part of the year condition of the market was steady but during the latter part of the year due to rise in prices of yarn the industry received a setback as the prices of finished goods did not rise in proportion to the rise in price of raw materials.

Wool-weaving—This year again Government set apart Rs.1,51,000 for giving assistance to the blanket and tweed making industry in the hills. The year saw further advance under this scheme. Army blankets worth about two lakhs were supplied from all over the province specially Meerut, Muzaffarnagar, Mirzapur and Benares State.

Carpet—The carpet industry of Mirzapur depends very largly on the export of carpets to United Kingdom. This industry was seriously affected, as the export of carpets came under severe restrictions. Some of the important manufacturers were obliged to stop the manufacture of carpets and to replace it by the manufacture of army blankets and yarn. Attempts are being continued to explore new markets for United Provinces carpets.

Calico printing—The calico printing industry of the Province again depends mainly on foreign markets and this also suffered from the impact of the war because the foreign markets became closed. Inspite of a considerable increase in the price of dye stuffs this industry has been able to maintain its position on account of sufficient local demand for printed fabrics.

Ghee industry—The *ghee* industry of the Province continued its steady record of progress. The market for *ghee* graded under the Grading and Marking Act of 1937 is growing very satisfactorily. There are 28 grading and packing stations working in this province and during the year 1940-41 these stations have graded approximately 25,000 maunds of *ghee*, in spite of heavy military purchases at these centres.

The total quantity of *ghee* graded in India during this period is about 75,000 maunds. The import of *ghee* has been steadily going down while the export is almost stationery.

Hosiery—Difficulties in procuring hosiery yarns compelled the closure of small hosiery factories. Only those hosiery factories which secured Government contracts could obtain woollen yarns through the Wool Liaison Officer.

Pottery—Khurja pottery continued to do well. The Ceramic Department of the Benares Hindu University installed up-to-date machinery for the manufacture of electric insulators and glazed drainage pipes. After completion it will open a new line of industry in United Provinces. The department continued to supply trained artizans for ceramic industry.

Tanning—Cottage tanning made gratifying progress during the year. The department has started 40 model village tanneries. Leather tanners were busy on account of war requirements. Demand for babool bark increased owing to the rise in the price of chemicals.

Oil—The cottage oil industry of the province had a lean time owing to competition with mill-produced oil. In addition to the 25 demonstration ghanies supplied to various districts last year improved ghanies were introduced in five new districts this year. About 2,500,000 maunds of oil was produced by the village Telis during the year.

Soap—There are now about 150 small soap factories working in the province as against 125 of last year. Small factories found themselves unable to make good profits owing to a rise in the price of caustic soda and because of competition with bigger factories.

Wood-working—The condition of cottage workers generally was satisfactory during the year as they were engaged in the production of war materials.

Glass—The bangle industry of Firozabad and the small bottle and phial industry of Kiratpur and Nagina (district Bijnor) also made good progress.

Hand-made paper—The hand-made paper industry of United Provinces is developing at various centres of United Provinces. The main qualities of paper produced is blotting, writing, duplicating filter and packing paper. Total production of hand-made paper during the year is estimated at Rs.30,000.

CHAPTER IV

SPECIAL SCHEMES OF THE DEPARTMENT

Cotton handloom scheme—Work in the handloom scheme was carried on successfully, a very few changes having been made in the details of the scheme reported last year. A brief account of the different aspects of the scheme is given below :

Researches on designs—As last year a number of new designs were introduced both in weaving and dyeing and printing. About 100 such designs were introduced. An important step towards the improvement of designs was taken by constituting a committee of experts to effect improvements in designs. This committee was composed of the Artists, Textile Expert, Manager and the Controller of the United Provinces Handicrafts. A design competition held in the Government Central Textile Institute, Cawnpore, failed to evoke an encouraging response and no designs worthy of prize were received. It is proposed to hold a Design Competition next year as well.

Weaving—As remarked above many new designs were introduced. During the year, demand for *niwar* and narrow tapes increased and the tape weaving machines for weaving 4 tapes or *niwar* at a time were in great demand.

Dyeing and printing—This section was busy with the introduction of indigenous dyes, specially pomegranate, kamela, tenant slate, and kuch brown. Instructors and dyers attached to the tuitional classes of handloom stores were given special training by the section during the year.

Supervision of manufacture—No new stores were transferred to the Co-operative Department, because unfortunately two of the stores transferred recently have not been doing well on account of certain difficulties. Grants were, however, given to nine Co-operative Societies mentioned below :

	Rs. a. p.
(1) Industrialists Co-operative Stores, Limited, Sandila	3,332 12 0
(2) The Mason Industrial Co-operative Federation, Limited, Bara Banki	3,305 0 0
(3) Etawah District Weavers' Central Co-operative Store, Limited, Etawah	3,235 13 0
(4) Weaver's Central Industrial Co-operative Store, Limited, Illahibagh, Gorakhpur	1,306 12 0
(5) Industrial Central Co-operative Store, Limited Maghar (district Basti).	827 12 0
(6) Modern Durrie Weavers' Association, Khairabad (district Sitapur)	650 0 0
(7) Ittahadul Ansar Co-operative Soiciety, Ghazipur (district Benares)	270 13 0
(8) Industrial Central Co-operative Store, Agra ..	650 0 0
(9) Banker Co-operative Society, Mallawan (district Hardoi)	580 0 0
Total ..	14,158 14 0

In addition to these substantial grants were given to the Co-operative Societies for over-head expenses. Advances in cash and raw materials were also made to enable them to execute orders of the United Provinces Handicrafts. The working of the Stores during the year exhibits no special feature, except that the Stores at Sandila and Bara Banki received consideration for *niwar* for war needs. At the same time they continued to meet satisfactorily the normal demand. The Gorakhpur Store continued to produce towels. The Etawah Store remained more or less moribund during the year on account of certain difficulties.

Supply of improved appliances—Over 100 jacquards and about 75 take-up motion looms were distributed to weavers. A sum of Rs.3,409 was spent under this head.

Subsidy to dyer students—The number of ex-students of the dyeing school receiving subsidy and settling down at weaving centres is 6. They are paid monthly subsidy ranging from Rs.10 to Rs.20 per month. No new grants were sanctioned during the year. This scheme is not working very satisfactorily, as students could not get continuous work in the localities where they have settled down.

Calendering plant—Negotiations to give a grant to a party to set up a calendering plant at Bara Banki were continued during the year.

Marketing—As usual marketing was done through the Provincial Marketing Organization—Government, United Provinces Handicrafts. Co-operative Stores were encouraged to do direct business and to be less dependent on the handicrafts. The services of the Rural Canvassers were placed at the disposal of the Societies. One of the Co-operative Stores at Bara Banki has also started Arhat business, i.e. sale of the products of the weavers to whole-sellers on commission basis and this scheme worked well during the year.

This system of doing independent business has not been successful in the newly organized Co-operative Stores, as they need more guidance from the Industries Department in all matters of detail. The business was not very extensive during the year, because dealers were not making purchases of stocks in the normal way. They were cautious and purchases were for immediate requirements only. The condition of the weavers was, however, not bad during the year, because many cotton weavers found employment in weaving *niwar*, *durries* and similar articles required for the Supply Department. The weavers who use art silk and mixture were in difficulty during the year, as the prices of raw material went up. The United Provinces Handicrafts has tried to get control over the high prices of raw material by introducing designs requiring less imported yarn. There was no acute shortage of dyes during the year.

The department was able to obtain supplies of dyes released by the Government of India, out of the stock of enemy concerns and the market had also sufficient quantities available. As a precautionary measure, however, the tendency was for using lighter shades. The Handicrafts executed orders of the Supply Department for *niwar* during the year under review.

Development of Cottage industries in the Kumaun Division

Woollen Industry—The scheme completed its second year of existence and there has been a gradual and all-round improvement under this scheme during the year.

The aims and objects of the scheme and the *modus operandi* adopted have been given in last year's report.

The following paragraphs deal with the various activities of the scheme and the progress made under each head :

Purchase of wool—During the year 800 maunds of Tibetan raw wool at a cost of Rs.38,000 were purchased as against 1,124 maunds worth Rs.47,000 purchased last year. The main reason for less purchase is due to the increased production of yarn of finer counts, consuming less raw wool. Moreover, there was less spinning last year than anticipated. So a good stock of raw wool was carried forward. To avoid adulterations in wool, arrangement was made to purchase wool from Tibet and it is gratifying to note that this arrangement resulted in a better quality of wool at a slightly cheaper rate.

Spinning—The total number of sub-stores increased during the year from 55 to 56 :

Almora	29
Bhimtal, district Naini Tal	7
Dogadda (Garhwal)..	20
Total ..	56

There is a considerable demand for sub-stores in certain quarters. The wool scheme has got a provision for sixty sub-stores. The claims of various places are being examined and more centres will be added as and when their necessity is fully established.

There has been an appreciable improvement in the quantity and quality of yarn spun at the various sub-stores.

The total quantity of yarn received from all the sub-stores increased from 165 maunds during the last year to over 199 maunds in this year.

Weaving—During the year there were 50 weavers in all the three central stores in Kumaun against 46 of last year.

The total production of cloth was 20,415 yards, valued at Rs.35,719-3-6 as against Rs.7,496 of last year.

Distribution of appliances—During the year 12 looms and 183 charkhas were distributed, to deserving individuals and Co-operative Societies.

With a view to encourage and help the Co-operative Societies which have taken up weaving also, a grant of working capital to the following four Societies was given :—(1) Chaura, (2) Bageswar, (3) Jalmani and (4) Dhaniakote.

Fairs and exhibitions—During the year the Central Store, Almora, participated in Exhibitions at Naini Tal (June, 1940), Lucknow (November and December, 1940), and Bageswar (January, 1941 Visitors were impressed with the productions. A Silver Cup was won at the Naini Tal Exhibition.

Marketing—Since last year the marketing of the goods produced in the scheme was given to the Gandhi Ashram, All-India Spinners Association, Meerut. This arrangement broke down in the later part of the year, when the Department made its own marketing arrangements.

The sales have not been satisfactory.

Conferences—An Annual Conference of all the Co-operative Wool Societies was held at Bageswar in January, 1941. Important resolutions were passed. A District Conference was also held at Dogadda in December, 1940. Several local conferences helped to focuss the attention of the public on the scheme.

Advisory Committee—An Advisory Committee consisting of 12 official and non-official members, with the Deputy Commissioner as Chairman and Divisional Superintendent of Industries as Secretary, was constituted on 21st January, 1941, to advise on matters connected with the development of industries in the Kumaun Division.

In the first sitting of the Advisory Committee held on 13th February, 1941, four sub-committees, viz., (1) Marketing sub-committee, (2) Leather sub-committee, (3) Publicity sub-committee, and (4) Spinning and Weaving Rates sub-committee were formed. The committee also co-opted four members to give representation to Garhwal and Naini Tal Districts.

Registration of Societies--Uptil now out of 56 woollen co-operative societies, 15 have been registered. Proposals for the registration of 5 more centres were sent to the Registrar, Co-operative Societies.

Charkha Making Tuitional Class—During the year this class could visit only two centres, viz. Almora and Chaura (Dug). Through this class carpenters have received training in Charkha making and repairing.

Basket making class—During the year this class worked at Haldwani. Till now 61 students have been trained in this class.

This class could not execute several orders received during the year for lack of workshop facilities. With the setting up of a workshop it is expected that the students will have a greater scope for their work and the demands of the public will be fully met.

Articles produced were of the value of Rs.479-14-1½.

Tuitional classes.—Fifteen departmental tuitional classes—nine for textiles, two for carpentry, one for basket making, two for tanning and one for hand-made paper, continued to work. A brief account of their work is given below :

1. *Durrie weaving tuitional class*—The class worked at Syed Raja till February, 1941, when it was transferred to Bhatti Jarauli. It trained 21 workers of which 19 were professional, one non-weaver and

one weaver of the co-operative societies. All of them started weaving work at their home. Two fly shuttle looms and 10 new designs in durrie were introduced. Goods worth Rs.99-13 were produced. Finished products of the weaves worth Rs.1,310-10-9 were sold through the class.

2. *Durrie weaving class*—Khairabad (Sitapur)—The class imparted training to the weavers in weaving of reversible figure durries, durrie curtains, durrie fabrics suitable for handbags, holdalls, jute and cotton durries for floor and newar weaving. It trained 51 professional weavers, 24 weavers of co-operative societies and 9 non-weavers. It introduced 25 sleys, 30 steel reeds, 340 heald staves and 166 each of long treadles lamb-rods and pulleys. The local weavers association manufactured and disposed of through this class 1,685 durries worth Rs.6,000.

3. *Cotton and silk weaving class*—Amroha (district Moradabad)—The class was shifted in February, 1941 from Sikandrabad, district Bulandshahr to Amroha. It trained 15 workers, 10 professional weavers, 4 weavers of co-operative society and one non-weaver. Improved appliances 7 in number were successfully introduced among workers. Introduction of improved appliances together with the new designs enabled the workers to increase their earnings.

4. *Weaving class*—Mau-Aima (district Allahabad)—Introduction of new designs in Khandela cloth among the weavers continued. Sixteen workers were trained 8 were professional weavers, and 8 non-weavers. Sales amounted to Rs.204-8.

5. *Wool spinning and weaving*—Garampani (district Naini Tal)—The class was shifted to Garampani in September, 1940, from Bhimtal. It trained 26 students and introduced 26 improved appliances consisting of 21 charkhas and 4 looms. About 30 new designs were introduced among weavers.

6. *Wool spinning and weaving*—Chaura, patti Dug (district Almora)—It was shifted from Chanauda to Chaura patti Dug in September, 1940. It trained 42 workers. About 180 improved appliances were introduced among spinners and weavers, new designs were also introduced.

7. *Wool spinning and weaving class*—Miranpur (district Muzaffarnagar)—It imparted training mainly in the weaving of honey comb hucka-beck towels, woollen blankets, khes, etc. and trained 21 students. It introduced 7 improved appliances.

8. *Dyeing and printing*—The two tuitional classes for dyeing and printing continued their useful work in Almora and Bara Banki districts at various places in the rural areas for the benefit of cottage workers.

The class in the Hills remained in Chanauda (Almora) for a period of 6 months, from April, 1940 to September, 1940, and trained 18 students and after that it shifted to Chaura (Almora) where it imparted its training till the end of the year and trained some 21 students.

The class in the plains worked for a priod of 3 months in the beginning of the year at Sahebpur (Bara Banki) and trained 65 students. After this it was shifted to Rampur Katra (Bara Banki) where it remained for a period of 9 months till the end of the year and trained some 54 artisan students.

In both these classes instruction in improved processes on modern lines for bleaching, dyeing, printing of cotton yarn, silk, woollen cloth, garments and finishing on handbeetle machine was given. The training imparted proved very satisfactory and useful to the professional and artisan students for improvement of their business.

The Hill Class partook in the exhibition held at Bageshwar and Naini Tal and won a silver medal for demonstration on Dyeing of Wool with Indigenous Dyes and for Aeroprinting on "Namda" awarded by the Kumaun Arts and Crafts Exhibition Committee.

Both the tuitional classes helped in dyeing 6,694 lbs. of yarn and sold goods worth Rs.690.

Carpentry—(*a*) Allahabad District :

It continued to work at Sirsa, district Allahabad. It gave training to 23 artizans in wood work. Goods to the value of Rs.1,184-4 were produced and sold.

(*b*) Bareilly District :

This class was shifted to Nagaria and is working there since 6th November, 1940. It continued to do good work for the uplift of this industry in villages. It executed orders placed by the Rural Development Association. It trained 172 workers including 119 professional workers and produced goods to the value of Rs.2,376.

Basket-making tuitional class—Post Office Dhaura, district Bareilly :

The class is working since 17th July, 1940. Forty-eight students in all were taught to make chairs, tables, baskets and other small articles. Goods worth Rs.175 were produced and sales of Rs.103-5-9 effected.

Hand-made Paper Tuitional Class—Kalpi :

During the year 1940-41 two batches of students were trained at this class.

(i) In the first batch 16 students were admitted on 1st May, 1940, out of which ten completed their training. In the examination held in October, 1940, eight students were successful—four students secured first division, two second division and two were placed in the third division.

(ii) Second batch started working from 1st November, 1940, and consisted of six students and six artizan workers. These students completed their training on the 30th April, 1941.

Since the commencement of the tuitional class at Muttra in February, 1938, 55 students have been trained up to 31st March, 1941. Most of these students are engaged in the hand-made paper trade as workers and instructors.

In addition to these students 30 artizans have also been given instructions in the use of improved implements--Digester, Beater, Glazing machine, Press, improved wire moulds etc.

During the year under report special attention was paid to improve the quality of blotting paper made at Kalpi. Manufacture of cover paper from old jute and duplicating paper from waste paper was introduced. Use of rice straw as a new material for hand-made paper was demonstrated to workers and they are now using it for making cover and file papers.

To provide raw materials to Kalpi paper workers and to market their products, a store has been organized at the school. The store started working from the 1st December, 1940. During the period of four months the stores purchased raw material and finished goods worth Rs.3,198-2-3 and effected sales worth Rs.64-11.

For the supply of pulp to workers and finishing their output a workshop has been attached to the school equipped with appliances—Autoclaves, screw press, glazing machine, cutting machine, etc. The workshop is very popular amongst the workers.

Tanning tuitional classes—The tuitional classes of Tanning Gangua-Khera and Raniwan are functioning since December, 1937, and 20th March, 1938, respectively. The following figures will show the total value of production and sales up to 31st March, 1941:

	Gangua-Khera	*Raniwan*
	Rs. a. p.	Rs. a. p.
1. Number of men initiated into the improved system.	59 0 0	74 0 0
2. Value of production	5,547 7 9	10,136 13 3
3. Sales effected through the class	5,421 12 6	10,281 14 9

These classes are now in full swing. They are working under the Polytechnic Institutes and have started to work on commercial lines. The product of these classes find a good market.

Improvement of raw hide industry—During the year under report it was not possible to render assistance to the Co-operative Department. A number of Tuitional classes of Tanning have been started in various

places in the Province which are proving of great assistance to Tanners Societies. The jail department has also received assistance in organizing leather industry at the Juvenile Jail, Bareilly.

The experiment of improved village Tanning has been proved successful and a number of tuitional classes have been opened at various centres, numbering 28 and more are likely to be started. The work is rapidly progressing and is receiving admiration from all quarters even from outside the Province. This demonstration has proved of real assistance to village tanners.

A number of flaying parties are also touring the entire province demonstrating the improved methods of flaying to the butchers in the towns and Chamars in the villages which improved to a certain extent the condition of raw hides. Thus the entire leather industry will be improved which was lacking for want of proper technical guidance for so many years.

In many of the tuitional classes the manufacture of Glue was taught to the learners and some of them were able to manufacture glue of very superior quality.

Successful experiments in manure making were conducted in some of the tuitional classes for the benefit of village Chamars.

Buffing and glazing machines which were manufactured at the Government Leather Working School, Cawnpore, under the supervision of the Principal were greatly appreciated by the Directors of Industries of various provinces who visited the Glass and Cottage Industries Exhibition at Lucknow. Some of them were pressing to supply them with one machine of each type which was not possible.

Development of Cottage Oil Industry—During the year under report the cottage industry scheme comprised the following activities :

(1) Working of the demonstration units.

(2) Popularizing improved oil crushing units and training of demonstrators and carpenters.

(3) Investigation for the improvement of implements.

A grant of Rs.8,040 was provided for the scheme out of which an expenditure of Rs.7,975-9-2 has been incurred.

The progress of work under various items mentioned above is as under :

(1) Working of the demonstration units. The demonstration units at Gorakhpur and Sitapur are working satisfactorily and the gross profits are Rs.825-11-6 and Rs.821-8-9, respectively.

During the four months of the year, July to October, the market for oils and cake is generally slack on account of rainy season. This year

there was general depression in mustard seed and oil trade. The closing rates for seed and oil were lower than the pre-war rates. The market of mustard cake was even worst than seed and oil on account of considerable lowering in price.

The profit to oil millers on these accounts was lower than last year.

(2) Popularising improved oil crushing units—The demonstration ghannies supplied to 25 districts last year and five new districts this year were all used for demonstration purposes through the Gur Development staff.

In order to give intensive training to these demonstrators, classes were arranged at the Harcourt Butler Technological Institute and 52 demonstrators were trained.

With a view to stabilising the cottage oil industry, it was considered desirable to train the village carpenters in the manufacture of the improved ghannies in villages so that these implements could be prepared cheap and their repairs would be easy. A class for the training of carpenters was started from the 15th February, 1941, and 27 carpenters were trained.

During the year 1940-41, technical staff was sent to 18 places for removing the difficulties of the demonstration centres and of private parties who had installed these ghannies.

In addition to the manufacture of 32 ghannies for Government demonstration work and supply of ghannies at reduced prices to Tellis, 24 ghannies were prepared for supply to private persons at full price.

The work of the distribution of ghannies to Tellis and organizing them on co-operative lines will be taken up in 1941-42.

During the period under report special demonstrations were arranged at the Glass and Cottage Industry Exhibition, Lucknow, and the Nauchandi Fair. These demonstrations were very instructive and popular. A demonstrations centre is being worked at Ramnagar (Cawnpore District), where detailed accounts are maintained to show to the public its economic value.

(3) Investigations for the improvement of implements—Ghannies with *lats* of smaller length so as to be accommodated in the low roofed houses of village Tellis, have been successfully evolved. Those units will be ready for demonstration before July, 1941.

Industrial Survey—The scheme of industrial survey of cottage and minor industries and of mineral survey of the Province was completed. Survey report on hosiery industry has already been published as a departmental bulletin, some are ready for publication after scrutiny by the Publicity Board constituted for the purpose and others are under the scrutiny of Departmental Experts and will shortly be published.

These reports when published will be useful to industrialists in suggesting new lines of business.

Rural Development Work—During the year under review the Rural Industries Scheme was revised in the light of past experience. The Marketing Scheme received special attention. Seventy-one stores were sanctioned last year, but during the year unsatisfactory stores were weeded out. The general policy regarding location of the stores was altered. It was felt that the stores could work more efficiently in cities and in conjunction with Tuitional Classes. In all 29 stores were retained under the revised scheme including two specialised stores—one at Fatehpur (district Bara Banki) for sale of cotton pile carpets and the other at Kalpi (Jalaun) for hand-made paper. These stores are placed under sales organizers who were recruited by advertisement and were given a month's training at the Lucknow Emporium in practical salesmanship.

The Divisional Stores were found to be useful. Besides seven Divisional Stores sanctioned last year one more was organized at Agra.

Other activities under the main scheme were the following:

(1) Polytechnics.

(2) Tuitional Class including Spinning and Weaving scheme started under All-India Spinners Association.

(3) Bee-Keeping Scheme including Jeolikote Apiary.

(4) Poultry and other miscellaneous schemes.

(1) The Polytechnics were handicapped due to late sanction for their continuance. The Raniwa Polytechnic managed to carry on its activities as usual but the other two could hardly function properly during the period April to October for want of funds.

The Polytechnic at Raniwa imparted training in the following eight crafts:

(1) Carding and spinning.

(2) Hand-made paper.

(3) Weaving.

(4) Carpentry.

(5) Oil pressing.

(6) Tanning.

(7) Leather working.

(8) Dyeing and printing.

Training was provided to 117 students in all. Some went out and obtained employment or started their own independent business

while others continued in the Institute for further training. The Polytechnic was reported to be doing useful work and additional grants were given for starting a Women's section and for equipment of the existing classes. Thirteen ex-students of the Polytechnic were given suitable subsidies to enable them to settle in business, 8 in hand-made paper, three in Dyeing and Printing and 2 in Tanning.

The Gangaghat Polytechnic inspite of the handicaps mentioned above achieved fairly good results. Out of 117 students on roll during the period under review 50 underwent training. Of the remaining 67, 55 completed their training in one or more handicrafts and 12 left either on account of domestic reasons or because of their unsuitability for manual work. Out of those who completed their course 36 were reported to have established in life. Twenty-three independent business and 13 in service. Information regarding the rest could not be obtained by the Polytechnic authorities.

The Polytechnic at Barhaj (Gorakhpur) could not achieve much during the period April to October. It remained almost in a state of suspended animation and could only resume its normal working after November when the grant was made available to it. This Polytechnic was organized on the lines of other Polytechnics and additional provision was made for stipends to student and supervsiors staff. Among other handicrafts, the Polytechnic introduced button making which proved popular with the students.

Tuitional Classes of Spinning and Weaving worked under All-India Spinners Association. A grant of Rs.32,000 was sanctioned during the year to that Association to run 12 cloth producing centres in the United Provinces. The scheme provided training in carding and spinning and weaving of yarn into cloth. Arrangement for marketing cloth was also contemplated. The names of the centres where the scheme was started and the results achieved at each are given in statement at Appendix III.

Besides handspinning and weaving classes, tuitional classes of weaving with mill yarn were also organized and continued at the following places :

(1) Mau-Ranipur (district Jhansi).

(2) Pipri Mahendipur (district Sitapur).

(3) Bedari, P. O. Sadabad, Muttra District.

(4) Dharwara, district Lucknow.

(5) Mau, district Meerut.

The first two are old classes and combine dyeing and printing for which separate grants have been given. These classes are reported to be doing useful service to weavers and dyers of the localities. The last three were sanctioned only towards the close of the financial

year. Classes nos. (3) and (4) are proposed to be started under the auspices of the Co-operative Societies of weavers, which exist at the centres. The last named class is proposed to be organized on the lines of handloom stores, i.e., production-*cum*-marketing centre. A grant of Rs.1,132 for six months and a grant of Rs.1,000 for commercial operations have been placed at the disposal of the Rural Development Association, Meerut, for this class. The grant to commercial operations or working capital has been made out of the handloom industry funds provided by the Government of India for the development of Cotton Handloom Industry.

Dyeing and Printing classes at Dhampur (district Bijnor), Pipri Mahendipur (district Sitapur), Mau-Ranipur (Jhansi) reported satisfactory progress and were continued during the year. The classes at Haldwani (Naini Tal) and Derwa (Partabgarh) and Pothia (Hamirpur) could not give a good account of themselves and had to be closed.

Blanket Tuitional Classes established in the districts of Meerut, Jaunpur, Fyzabad, Partabgarh, Allahabad and Sultanpur received great encouragement due to the outbreak of War. Some of them were utilized for supply of yarn and blankets for the War. The Lower Centre (Meerut) contributed about 25,000 army blankets.

Tanning tuitional classes continued to do useful work as before. Out of 14 tanning and leather classes sanctioned up to 31st March 11 classes started functioning.

The Tanning classes sanctioned for Muttra and Garhwal and the leather classes at Pukhrayan (Cawnpore) could not be started.

The first six classes have worked for over two years and are doing well. Although there is an improvement in the working of the class the stage has not yet been reached when the worker could be made independent of them.

Among miscellaneous Tuitional classes the following may be mentioned :

(1) Toy-making classes.

(2) Gut making.

(3) Chick and munj mat making.

(4) Moondah and Ban making.

(5) Ladies Tuitional classes in weaving and tailoring.

Paper-toy class was started in Lucknow District. It proved quite popular and its continuance was sanctioned during the year. The wooden and soft toy classes started in Bareilly could not work properly. But some of those trained by the class have lately been organized into a society of workers under the general supervision

of the Manager, Divisional Store, Bareilly, who will arrange for the marketing of their products. Necessary assistance to the society in the shape of appliances and material have been sanctioned by the department.

Gut making Tuitional Class started in Fyzabad District, proved exceedingly popular. About 110 persons received training during the course of about two years, most of whom have since settled in independent business. Gut making has great possibilities and every effort is being made to expand the activities of the class.

Training in munj mats and chick making is being given by an ex-convict in Bulandshahr District. The class trained about 30 villagers. This system proved successful and requisitions were received by the Rural Development Association, Bulandshahr, for starting similar classes in other parts of the district. The outturn of the trainees is being sold through the District Divisional Store, Bulandshahr.

A Moondah and Ban making class is working in the district of Muzaffarnagar.

Ladies Tuitional classes in weaving and tailoring were sanctioned in February last under the supervision of the Rural Development Association, Jhansi. The results have yet to be seen.

Apart from regular Tuitional classes for actual artisans scheme for the training of beginners also worked at Bara Banki and Almora. The Subhas Technical School, Hartha (Bara Banki) imparts training in carpentry and smithy while the Gananath Vidyapith (Almora) in spinning and carpentry. These two institutions continued to work satisfactorily and were given additional grants for continuance during the year.

Bee-keeping—Bee-keeping schemes sanctioned in the districts of Mirzapur and Dehra Dun could not work successfully and had to be wound up. The schemes at present working are in the districts of Garhwal and Naini Tal. Of these the Jeolikote Apiary (Naini Tal) deserves special mention. The Apiary was started to encourage modern methods of bee-keeping in the United Provinces particularly on the hills and to carry on research work in apiculture. A grant of Rs.7,000 was sanctioned during the year for this institute although a sum of Rs.6,000 only was paid; the rest was met by the Apiary out of its income.

The Apiary was started with two hives but during the year under report on the average 25 hives were maintained. Of these 5 were reserved for honey production and the rest for the use of students and other experimental purposes. Though the production of honey was inconsiderable, the quality was of a high order and compared favourably with European and American honeys.

The number of students trained during the year was 23 out of which 20 were from the United Provinces and three from outside.

The Apiary is rendering useful service by giving advice and instructions to those interested in bee-keeping and by demonstration of the modern methods of bee-keeping in fairs and exhibitions.

Poultry Schemes

Poultry scheme at Majkkhali (Almora) and Amroha (Moradabad) continued to be run by private individuals who were subsidized last year. The scheme sanctioned for Cawnpore and Lucknow during the last year were not started. The scheme at Jaunpur continued to work while the one sanctioned under Rural Development Association, Hardoi, was transferred to the Chairman, Rural Development Association, in his private capacity.

Miscellaneous—Grant was given for starting a Tailoring Institute in Bulandshahr District. Subsidies were given for improved Kolhus to the President, Harijan Gokul Gandhi Ashram, Dorighat (Azamgarh) and to one Brahmand of Allahabad.

Exhibition, etc.—Grants were also given during the year for exhibition and advertisement to Rural Development Association and private individuals. Exhibitions were organized in several parts of the Province to encourage and popularize rural industries. The biggest show put up was at Lucknow on the occasion of the Departmental Exhibition held in December, 1940. Representative articles from all over the United Provinces were collected and placed for show and sale. They were much appreciated and commanded good sales. Other important exhibitions organized were at—

(1) Banda.

(2) Allahabad on the occasion of Magh Mela.

(3) Rataul (district Meerut).

(4) Bageshwar (Almora).

Gur Industry scheme—During the year under report, the Gur industry had to struggle against heavy odds. Never during the last decade was the price for sugarcane obtained by the cane-grower as high as in the preceding year. Therefore, naturally every cane-grower desired to increase the area under sugarcane to the maximum. The department, however, forestalled this move on the part of the cane-grower by launching a province-wide campaign warning him of the danger of over-production of cane. As many as two lakhs leaflets were distributed in the villages in this connexion. It may be fairly claimed that this propaganda produced a distinctly salutary effect, but the temptation of the abnormally high prices obtained

last year was too great to check the indiscriminate increase completely and the area increased from 1,875,937 to over 2,500,000 acres. This is a record figure and the area under sugarcane was in no year (with the exception of 1936-37 when it was 2,455,000 acres) was even a nearer approach. In the year 1936-37 the encouraging feature was that the sugar mills consumed cane to their utmost capacity. As against this, in the year under report, on account of the heavy carry over of the stocks from the previous year, the sugar mills crushed only 2/3rd of their capacity. This sudden fall in the consumption of sugarcane by the factories added further to the gravity of the situation. A still worse feature of the situation was that this under-consumption was mainly confined to the areas that usually made the supplies to the factories and where not only the increase was at its maximum, but the Gur manufacture equipment owing to the purchase of most of the cane by the factories year after year, had become either rusted and worn-out or incomplete due to the loss of one part or the other. Thus the problem was far more complicated and acute than in 1936-37 and the vital interests of the cane-growers were at stake. These unusual circumstances warranted a deviation from the regular working plan of the Gur Development Scheme and the problem arising out of the record surplus sugarcane—(*i*) the disposal of sugarcane and (*ii*) prevention of glut of Gur in the market—has had to be given a premier place in the programme of the activities of the year in preference to the introduction of improved methods.

In a Province which already had 288,000 Kolhus, any substantial addition to the number by fresh supplies was obviously impracticable for more than one reason. The huge expenditure involved, the chances of utilization of the additional Kolhus only during the year of surplus cane, the enormous increase in their prices due to War conditions and the last, but not the least, difficulties in persuading the firms to manufacture Kolhus in preference to other articles, ruled out the advisability of arranging the supply of any appreciable number. The only way out, therefore, seemed to be to utilize the existing number of Kolhus to the fullest extent and in the best possible manner.

Nevertheless, the anticipated demand for Kolhus was communicated to the Kolhu firms well in time. Some of them manufactured a good number of Kolhus for sale and hire and almost all of them effected the necessary repairs in the old stocks and made the maximum number available for use.

The areas where paucity of Kolhus was apprenhended were pointed out to the Kolhu-hiring firms before the commencement of the season and they were advised to so redistribute their Kolhus that the areas of surplus cane may receive an adequate supply. The advice being as much in the interest of business as in that of the surplus cane was readily acted upon and had had the desired effect.

A province wide campaign was launched among the cane-growers advising them to get the necessary repairs done to their Kolhus and to start crushing much earlier than usual. Five lakh leaflets were distributed on the subject and 10,000 copies of a poster depicting the central idea of the campaign were posted at prominent places in the villages, Courts, Post Offices, Railway Stations and other conspicious places to draw the attention of the cane-growers to the danger. Besides the staff of the Gur Development Scheme, the field staff of the Cane Development, Agriculture, Rural Development and Revenue Departments fully co-operated in making this propaganda effective. Above all, over 2,000 local honorary workers of the Gur Development Scheme who are in constant close contact with the cane-growers rendered valuable assistance in bringing the message home to the cane-growers. It is satisfactory to note that this propaganda had had a ready response from the canegrowers and the crushing operations in many districts commenced much ealier than usual and consequently, the crushing season could be extended in some areas to a period of six months instead of the usual four. There can be no better proof of the success of the propaganda than the abnormal rise in the hire charges of the Kolhus in October and November due to the commencement of crushing earlier as against rise of these charges in February and March in 1936-37. The extension of the season means a substantial increase in the crushing capacity of Kolhus. Thus indirectly, the same purpose was served as the addition of thousands of Kolhus costing lakhs of rupees would have done.

Besides these general measures taken all over the Province, attention was concentrated to the districts (particularly Gorakhpur, Basti and Gonda) where the problem of surplus cane was most acute. Supply of 1,500 Kolhus was arranged in these districts in the areas where the shortage was serious. In order to utilize the Kolhus unserviceable for want of facilities for repair and supply of spare parts, the mechanics were advised to start small workshops at central places. The proposition promising good business was readily accepted by them and a number of workshops sprang up within a short time. Even out of the Kolhus that were in working order, a considerable percentage was of two roller mills which could not crush the hard varieties of cane. In order to utilize even these two-roller mills, the cane-growers were advised to split cane at the knots with stone or brick hampering prior to insertion in the mills. The device being so simple and yet so effective was fully taken advantage of by the cane-growers and in no time even the two-roller mills were set aworking.

The staff of Demonstrators and Gur Guides was substantially augmented all over the Province and particularly in the districts of considerable surplus cane. One hundred men were posted in Gorakhpur, Basti and Gonda alone and the number was later increased to 150.

In the Padrauna tahsil of Gorakhpur District where difficulties were experienced in construction of the improved type of furnaces due to lowwater level, bricks were supplied to cane-growers gratis.

The owners of big farms were advised to instal power-crushers and a pamphlet giving details of the working of an open-pan factory was issued for heir guidance. At the same time, the Director of Agriculture rendered financial assistance in deserving cases by making taqavi advances for purchase of the machinery from out of a sum of Rs.50,000 placed at his disposal by the Government for the purpose.

It is highly satisfactory to note that as a result of these measures, the situation in most of the districts was completely brought under control. In case of a few districts, however, where the sugarcane was too excessive to be completely utilized by the close of the season inspite of all possible efforts only about 30,000 acres cane remained unutilized which is very substantially less than what it was anticipated. The credit for saving the situation goes to the cane-grower himself who acted up to the advice of the department and put in his best efforts to help himself.

Now coming to the normal work of the Scheme. It falls under the following heads :

(1) Development.

(2) Marketing.

(3) Research and Experiment.

(4) Propaganda and Publicity.

1. *Development*—In addition to the supply of 1,500 Kolhus arranged in Gorakhpur, Basti and Gonda Districts, another 331 Kolhus were introduced in other districts as well. The difficulties in regard to the supply of Kolhus during the year under report, mainly on account of the war conditions have already been referred to in the foregoing paragraphs. Taqavi allotment to the extent of about Rs.1,10,000 realizable in 10 half-yearly instalments was utilized to facilitate the introduction of these appliances. The total number of improved type of Kolhus so far introduced under the Scheme is 5,387.

Four thousand packets of the seed of Deola (a juice-clarifying plant) were distributed among the cane-growers during the year under report. At the same time, supply of Suklai (bark of a hilly tree used for juice clarification) was also arranged. Suklai was made available to the cane-growers at a cheap rate and was also distributed free in selected areas.

The training classes of local honorary workers were held at five selected centres and training in the improved methods of Gur manufacture was imparted to 900 Local Honorary Workers including the

Organizers of Rural Development, some staff of Cane Development and some workers selected from the Cane Development areas by the officers of the Cane Development Department. These classes have become an important feature of the Scheme. They were presided over by the following :

(1) Meerut .. Hon'ble Dr. Sir Sita Ram, M.A., LL.B., D.LITT., Rai Bahadur, President, United Provinces Legislative Council.

(2) Cawnpore .. Mr. J. E. Pedley, C.I.E., M.C., J.P., I.C.S., Chairman, Sugar Commission, United Provinces and Bihar, Cawnpore.

(3) Gorakhpur .. Mr. Vishnu Sahay, I.C.S., Director of Agriculture, United Provinces and Cane Commissioner, United Provinces.

(4) Lucknow .. Mr. R. C. Srivastava, B.SC., O.B.E., Director, Imperial Institute of Sugar Technology, Cawnpore.

(5) Benares .. Rai Bahadur Pandit Radhey Lal Chaturvedi, B.A., the then Registrar, Co-operative Societies, United Provinces.

The trained local honorary workers who now number 2,300 form the backbone of the Scheme. They proved their utility when we required an army of workers for doing propaganda among the cane-growers for starting crushing early, working the Kolhus for the maximum number of hours every day as also for impressing on the cane-growers the futility of waiting in the hope of selling their cane to the factories in excess of the allotted quota. Being distributed, as they are, in all the sugarcane-growing districts and possessing some influence with the cane-growers, they were able to propagate ideas among them promptly, effectively and with the minimum expense of energy. Now we propose to make further efforts to organize, educate and strengthen this force. The most welcome feature of this institution is that a substantial part of the budget allotment of the Gur Development Scheme is directly spent on the cane-growers themselves and at the same time, much greater work is done than it would be possible by spending the same money on the paid staff.

It was with the assistance of these workers that it was possible to construct 9,000 furnaces of improved type in the normal area of operation of the Gur Development Scheme and another 5,000 in the areas of surplus cane where the work of Gur Development had to be done during the year under report.

2. *Marketing*—One long-felt need of the industry was the publication of a journal to cater the necessary information regarding market conditions to facilitate movement of Gur and to serve as an

organ for instruction, discussion and propagation of ideas on the problems of the industry. This was met by starting the "Gur Market Review". The information regarding the market rates as related to quality, arrivals and stocks of Gur in respect of the important Gur mandies all over the country is collected and published in the "Review". This was so far not available and it is hoped, that it will go a long way in helping the movement of this commodity within and outside the Province.

The Journal also deals with the day to day problems of the Gur industry in particular and the sugarcane in general and serves as medium of instruction and education to the staff employed under the Scheme, the staff of other Development Departments connected with the Scheme and over 2,000 local honorary workers and through them to the cane-growers.

In order to facilitate day to day transactions in Gur, the information from selected markets of the country was telegraphically collected and broadcast from the Lucknow Radio Station. It could be arranged towards the later part of the season. The broadcast service will function only during the Gur season and will help the big dealers in particulars.

Co-operative Commission Agencies organized under the Scheme continued to help in the disposal of Gur in half a dozen districts. One of them situated at Cawnpore also started Pacca Arhat business. By the close of the season, it would be able to earn about five thousand as commission.

Arrangements for grading were made in half a dozen districts but due to the low rates of Gur and small margin between the prices of graded and ungraded Gur, grading could not be a paying proposition during this season and hence the work was not taken in hand. One important reason for not doing grading this season was the competition between the Khandsari Karkhanas and the Refineries resulting in rise in the prices of refinery Gur which compared favourably with those of eating-Gur, in the eastern districts where arrangements for grading were made.

The season commenced with the rates of Gur ranging between Rs.4 and Rs.3 a maund. The prices continued at this level in October and November. They fell in December to Rs.2-8 to Rs.2 a maund. There was a further slight fall in January particularly for inferior qualities—the prices ranging between Rs.2-8 and Re.1-8 a maund. There was, however, no further fall thereafter and the prices continued at this rate till the end of the season. It may be noted that the year under report being a record year for over-production of Gur, low prices were a foregone conclusion. But the campaign for early commencement of the season and the consequent distribution of the

produce over a longer period than usual not only solved the problem of disposal of surplus cane to a considerable extent, but has had the very wholesome effect of preventing glut of Gur in the market and the consequent further fall in the prices. Even at a very moderate estimate, the fall in prices was checked at least by annas 4 (four annas) a maund and the cane-grower benefitted by no less than a crore of rupees.

3. *Research and Experiment*—The experimental work on activated carbon done at village Sarak Dudhli (district Saharanpur) had reached a stage where it was considered necessary to verify the experimental results on a cottage industry scale. Accordingly the factory was worked on commercial lines. It was found that inspite of the rise in the cost of the material carbon could be manufactured at annas 2 a lb. with 2 per cent. efficiency on juice.

Samples of refinery Gur from the supplies made by the merchants to the refineries through the departmental agency were tested in the laboratory free of any charge to facilitate transactions. Samples from the honey collected by the demonstrators (posted to the hill districts of Almora, Naini Tal and Dehra Dun), during the off-season were also tested in the laboratory to ensure supply of pure honey to the public.

Size of the Kolhus and the available bullock-power in the Province are important considerations in popularizing improved type of Kolhus. The bullocks generally maintained by the cultivators in the eastern districts are not strong enough to drive the standard size of the Kolhus while the Kolhus of smaller size are not as efficient and strong as they ought to be. Therefore the practice of driving Sultan Kolhus with four bullocks was introduced in Benares District as an experimental measure and it was found that with four bullocks the efficiency and output increase while the pull on the bullocks becomes comparatively lighter.

Difficulties experienced in the manufacture of palm Gur and Rab were successfully overcome and demonstrations in manufacture of these products given in the districts of Farrukhabad, Mainpuri, Budaun and Bijnor. Experiments in use of lime in preservation of palm juice gave much better results than in Southern India and it was found that juice could be kept unfermented from 12 to 24 hours.

Since palm Gur is new to these Provinces and the rates of sugarcane Gur are very low, manufacture of sugar from palm juice and then of Misri from palm sugar is being tried at three centres in Farrukhabad and Mainpuri Districts. It is expected that the labourers who have taken up the industry at these centres at the instance of the department would be able to earn annas 4 to annas 6 a day by taking to this industry. The final results of this trial will be available at

the close of the season in July. It is hoped that the industry may, in due course, be able to give employment to a considerable number of landless labourers.

4. *Propaganda and Publicity*—Gur Development Courts were successfully set up at 31 exhibitions, conferences and fairs. Particular mention may be made of the one set up in connexion with the Glass and Cottage Industries Exhibition at Lucknow which was highly appreciated by the public.

Commercial Intelligence

The Commercial Intelligence Section completed its third year on 1st February, 1941.

1. *Commercial and Industrial enquiries*—The Section received over 2,300 enquiries during the year as against 1,700 last year from the public as well as other Government Departments, including the Department of Commercial Intelligence and Statistics and offices established in connexion with the supply of war material. These inquiries related principally to suppliers of raw materials and machinery, manufacturers and traders, existing and potential markets, statistics of production and trade, the supply of certain imported articles and questions of price control.

2. *Advice upon " Choice of careers "*—Enquiries numbering about 100 asking for advice on the choice of industrial and commercial careers were received during the year under review. Most of these came from the educated unemployed young men. Necessary information was given to them and help was also rendered in the preparation of industrial schemes. One pamphlet giving schemes, estimates and commercial possibilities of starting the oil industry, hand-made paper, soap and ghee industry was issued during the year. A few more are under preparation and will be published shortly. The issue of such booklets will now be a regular activity of the Commercial Intelligence Section.

3. *Collection of Industrial and Commercial information*—With a view to re-organize the system of collection and maintenance of information, the Divisional Superintendent of Industries Incharge of the Section and one assistant were deputed to Calcutta in August last to study the working of the office of the Director General of Commercial Intelligence and Statistics. The work has now been re-organized on the lines of the working of the above office, with certain modifications to suit our requirements. Under this system, the information is collected systematically, maintained scientifically in a number of registers, and then indexed on an elaborate Card Index system. Satisfactory progress has been made in the re-organization of the work, but the progress has been rather slow owing to the inadequacy of cleri staff.

4. *Collection of Industrial Statistics*—Statistics relating to paper mills, tea, woollen, jute and cotton mills large scale industrial establishments, and mines and minerals which do not come under the Indian Mines Act were compiled and supplied to the Director General of Commercial Intelligence and Statistics as in the previous year. A fortnightly statement showing wholesale rates of certain selected commodities in the Cawnpore market has been submitted to the Government regularly.

5. *Monthly Bulletin*—The monthly bulletin of "Trade, Industry and Commerce" in the United Provinces containing a review of the trade conditions and industrial progress in the Province which used to be published in the "Public Information" has been discontinued since no other method for giving it suitable publicity could be found. The proposal for publishing this information is, however, again under consideration.

6. *Railway freight*—Several complaints from different industries which found themselves in serious trouble owing to high railway freights and inadequate wagon supply were received. All such cases were studied and representations made where necessary. Besides, railway freight rates in relation to certain industries of the Province were studied and representations made to the railway authorities for suitable concessions. As a result of these representations the department succeeded in arranging for adequate wagon supply in almost all cases and in securing valuable concessions in number of cases, in respect of railway freight e.g. reduction of railway freight by E. I. Railway on pottery when-booked from Chunar and packed in *ratha* crates; reduction of railway freight on bleached castor oil when booked in drums from Cawnpore Centre to Kidderpur docks.

7. *Octroi and Terminal Taxes*—Similarly several representations were received from the business community regarding high rates of octroi and terminal taxes charged by the local bodies. These complaints were examined and suitable representations made where necessary. Under Government orders, Commissioners of Divisions have been instructed to consult this Department in respect of any amendments in the octroi and terminal tax schedules of various local bodies. During the year under review, about 100 such cases were received.

The advice given to the Commissioners has been accepted practically in every case. The bulk of the recommendations made to the local bodies direct have also been accepted by them.

8. *Commercial Directory*—The first edition of the United Provinces Commercial Directory (1941-42) has been published recently. It contains a comprehensive list of traders and manufacturers in the Province arranged district as well as industry-wise. Out of the four sections, the first three give much useful information relating to general

industrial matters, likely to be of immense value to the business community. It is expected that the publication will be warmly welcomed by the public as it should remove their long standing grievance that such information should be easily available. The publication is cloth bound and contains about 800 royal octavo pages and has been priced at Rs.6 only. From the inquiries that are being received every day in the office, it seems that the efforts of the Department in preparing it will prove to be a great success.

9. *Industrial Bulletins*—The preparation of industrial bulletins, dissemination of knowledge as regards the present state and future prospects of various industries, evolution of new process of manufacture, etc. has been organized on proper lines. A small Publicity Board has been appointed to supervise the compilation and issue of such bulletins. The Board is an informal body consisting of the Divisional Superintendent of Industries (E.C.), Officer Incharge of the Section, Industrial Chemist to United Provinces Government and the Deputy Director of Industries. The practice is to issue at least one or two bulletins every month regularly. Since July, the following bulletins have been published :

(1) Possibilities of Improving the Glue manufacture in the United Provinces (English and Urdu).

(2) Survey of Hosiery Industry in the United Provinces (English).

(3) Washing and Dyeing of Silk Fibre (Urdu).

(4) Washing and Dyeing of Wool Fibre (Urdu).

(5) Wooden Toys—How to make them ? (English).

(6) Power Alcohol—Its use as motor fuel in the United Provinces (English).

(7) Some Indigenous Dyes and their application (English).

(8) Kamela and Pomegranate Rind Dyes (English).

(9) Development of Raw Hide Trade (Urdu).

(10) Schemes for Educated Unemployed (English).

(11) Utilization of Kamela Dye in the colouring of food stuffs and beverages (English).

(12) A. B. C. of Pattern Design (English).

10. *Commercial Museum*—Steps are being taken to meet an urgent need by starting a commercial museum for the display of products of the Province, improved processes of manufacture, raw materials, machinery, etc. A start in this direction has already been made, but the progress is hampered owing to the want of funds in the budget for this purpose. The scheme has, however, been recently approved by Government and it is hoped that by next year substantial progress will have been made with it.

11. *Unemployment Scheme*—For the relief of unemployment among the technically trained youngmen, Government again set apart a sum of Rs.20,000 to be distributed as grants to those desirous of starting an industrial undertaking. Only one meeting of the Selection Committee was held during the year and 19 applications involving a sum of Rs.7,980 were sanctioned. A total sum of Rs.14,760 was actually disbursed this year. During the last three years of this scheme, a sum of Rs.96,250 in all has already been distributed among 159 young men who have set up in business.

This year all the grantees with the exception of two, who have started Goldsmithy on modern and improved methods, took up popular industries such as wood working, boot and shoe making, dyeing and printing and tanning. The progress of the grantees has generally been very satisfactory. The inspecting officers of the department have verified the fact that these small grants have shown results beyond expectation. All the grantees are earning a decent and honest living which would otherwise have been exceedingly difficult for them. Due to the outbreak of war, however, there has been scarcity of colours and chemicals and therefore some of the grantees, engaged in dyeing and printing industry, have not done well.

Development of hand-made paper industry—During the year under report a grant of Rs.11,584 was provided for the scheme, out of which an expenditure of Rs.10,482-13 was incurred on the following items and the balance was surrendered.

1. *Research Work conducted at*—

	Rs. a. p.
(i) The Forest Research Institute, Dehra Dun ..	3,499 15 0
(ii) The Benares Hindu University, Benares ..	750 0 0
(iii) The Harcourt Butler Technological Institute, Cawnpore	1,179 9 9
Total ..	5,429 8 9

2. *Training imparted at*—

	Rs. a. p.
(i) The Swadeshi League Handmade Paper Training Class, Allahabad	500 0 0
(ii) Mr. Ganesh Datta Sati, village Satyana, district Garhwal, for Handmade Paper Class	100 0 0
(iii) Demonstration of improved processes and appliances	1,265 9 3
(iv) Handmade Paper Workshop, Kalpi	2,188 15 0
(v) Grants to workers for implements	998 12 0
GRAND TOTAL ..	10,482 13 0

1. *Research Work*—In order to avoid the duplication of work at Dehra Dun, Benares and Cawnpore a programme was drawn up in the beginning and followed during the year. The work conducted at these institutions is summarised as under :

(i) Forest Research Institute, Dehra Dun

A.—During the year under report the work on the preparation of pulp and utilization of village raw materials was continued. Small scale implements have been constructed and tested as noted below :

(i) A small power driven beater fitted with washing drum—gave satisfactory results. It effectively washed and cleaned the pulp in less time and with lower consumption of water.

(ii) Kollar-gang, made from Gwalior sandstone proved useful in making pulp from straw and similar materials.

(iii) A roller type glazing machine sent by the Harcourt Butler Technological Institute was tested and found to be quite satisfactory.

B.—The following types of papers were made during the war : filter papers, superior blotting papers, mount boards, dockle-edged letter papers and envelopes, greeting and invitation cards, drawing papers, etc.

Complete sets of samples were supplied to eight institutions in various provinces and a few persons became interested and took advantage of the Section in learning the work.

The following distinguished visitors inspected the section during 1940-41 :

(i) His Excellency the Governor of the United Provinces and Lady Hallett.

(ii) Chairman and delegates of the Forest Utilization Advisory Board.

(iii) Minister-in-charge of Industries, Nepal.

(iv) Principal of the College of Technology, Bombay.

(ii) The Benares Hindu University, Benares

During the current year, attention was mainly concentrated on the preparation of filter papers and sizing of hand-made paper. It has been found that good filter paper can be made from paper cuttings and old good quality paper without addition of rag pulp. Regarding sizing of paper 18 experiments have been conducted and the results obtained have been examined.

The following combinations gave satisfactory results :

	Per cent.	
(i) Rosin soap	11	Calculated on the weight of dry pulp taken.
Casein	8	
Alum	11	
(ii) Rosin Soap containing 20 per cent. free rosin	10	Ditto.
Alum	10	

(iii) Harcourt Butler Technological Institute, Cawnpore

The machines prepared last year, i.e. Auto-clave, Beater, Glazing, rollers and Screw press, have been given trials at this Institute and one set of these was sent for trials to Dehra Dun. The under-mentioned fibres were treated in the Auto-clave and beater and the results obtained as under :

Fibre treated	Yield of pulp (Dry.)	Time taken for beating 35 lbs. of pulp per charge
(i) Sunn hemp (bleached)	80 per cent.	24 hours
(ii) Bagasse (bleached)	50 ,,	8 ,,
(iii) Bagasse (unbleached	56 ,,	8 ,,
(iv) Paddy straw (bleached) ..	50 ,,	6½ ,,
(v) Paddy straw (unbleached) ..	56 ,,	6½ ,,
(vi) Dab grass (bleached)	50 ,,	10 ,,
(vii) Linseed fibre (bleached) ..	72 ,,	24 ,,
(viii) Waste cotton linters (bleached) ..	66 ,,	60 ,,

The beater works very well for all raw materials except waste cotton linters. The pulp made from these materials was found suitable for papers mentioned against their names :

(i) *Bagasse*—The bagasse pulp is suitable for making card-board and cover paper.

(ii) *Paddy straw and dab grass*—The pulp from these materials can be used for writing and duplicating papers.

(iii) *Sunn hemp and linseed fibres*—The pulp from these materials is excellent for making bank papers, bond and document papers.

(iv) *Waste cotton linters*—This makes good pulp for superior paper and high quality blotting papers.

The beater devised at the Institute has been further improved by putting the bottom dash plate along the side. This change in the beater has improved the beating efficiency along with reduction in time.

The Institute has supplied hand-made paper equipment to the under mentioned-institutions :

(i) Polytechnic Institute, Ganga Ghat	One auto-clave.
(ii) Bharatpur State	One auto-clave, a beater and a glazing machine.
(iii) Swadeshi League, Allahabad ..	One auto-clave.

2. *Training*—The training in hand-made paper has been arranged at the following centres :

(i) The Swadeshi League, Hand-made Paper Training Class, Allahabad. Thirteen students have been trained at this centre in two batches.

(ii) Hand-made Paper School, managed by Mr. Ganosha Datta Sati at Satyana village, district Garhwal, imparted training to 13 students during the year.

(iii) Government Hand-made Paper Tuitional Class, Kalpi, trained 14 students and 30 artisans during 1940-41.

3. *Demonstrations of improved appliances*—During the year under report the complete process of hand-made paper manufacture was demonstrated at the Swadeshi Exhibition, Allahabad, from 26th October to 13th November, 1940, and at the Glass and Cottage Industry Exhibition, Lucknow, from 12th to 21st December, 1940. A wide range of hand-made samples manufactured at various places, was also exhibited at the latter centre. These demonstrations were very popular and instructive. In these demonstrations, hand-made paper research staff of the Forest Research Institute, Dehra Dun, Harcourt Butler Technological Institute, Cawnpore, and the students and the staff of the Hand-made Paper School, Kalpi, co-operated.

A brochure on hand-made paper industry in the United Provinces was published during this year.

4. *Hand-made Paper Workshop and Stores, Kalpi*—A workshop has been fitted with improved appliances—auto-clave, beater, glazing machine, cutting machine etc. for the benefit of the workers to supply them good pulp and finish the paper prepared by them.

To help the hand-made paper workers of Kalpi, a store has been organized to supply raw materials and market their finished products.

This store was started in December, 1940, and after making arrangement for the supply of raw materials, it also started the purchase of finished products from February, 1941.

During the year under report this store has done business in purchasing finished products and raw materials to an extent of Rs.3,198-1-6 and has effected sales of finished products and raw materials amounting to Rs.533-11-0.

5. *Grants to workers*—Grants have been sanctioned and given to 28 workers from Kalpi and Raniwa for implements amounting to Rs.998-12

Improvement of Glass Industry—The glass industy as a whole has been experiencing exceptional prosperity and activity during the year. The eight hollowware factories situated in the Province were very busy. The sheet glass factory at Bahjoi, the only one of its kind, could hardly cope with the pressure of orders. The bangle industry at Ferozabad enjoyed the most prosperous time in its history, working without any competition whatsoever. The number of factories increased there from 32 to 47 the general output being nearly trebled.

Several developments and improvements of technical nature have taken place under the direct guidance of the Glass Technologist. A modern recuperative pot furnace was erected at the factory of Messrs. Ganga Glass Works, Balawali. It proved to be very successful due to its economy, higher temperature obtained, also due to an improvement in the quality of the glass produced.

Messrs. Ganga Glass Works have expanded the production of laboratory and instrument glass. Messrs. United Provinces Glass Works concentrated on the manufacture of lighting articles of sizes and shapes not made before in India.

Two factories in the Province have installed fresh air blowing plants for the benefit of the workmen, not known before in this country. A number of improved workshops, provided with non-draft ventilation has been erected at Government expense in Ferozabad to improve working conditions which are as a rule strikingly bad from hygienic point of view. Various glass shaping and decorating machines were imported for the industry, some subsidized by Government and others entirely on private account. This new and efficient equipment will greatly contribute to the productive capacity of our factories.

The manufacture of fine glass beads, according to a foreign process, is being introduced. Some 15 apprentices at present under training in Benares will be established in the near future as independent artisans.

The erection of a modern bottle factory near Benares was sponsored by the Glass Technologist. It will start production within a few months, filling an important gap in the Province's industrial capacity.

Power alcohol—Dr. N. G. Chatterji who acted as Secretary of the Joint Power Alcohol and Molasses Inquiry Committee of the United Provinces and Bihar, carried out the technical and scientific investigations with regard to the properties of mixtures of power alcohol and the different brands of petrol marketed in India. These investigations proved very helpful in framing the United Provinces Power Alcohol Rules. The first batch of excise inspectors required for supervision of power alcohol distilleries and petrol-alcohol mixing depots were also trained by him in the Institute. In addition to his own duties, he is also working as the Technical Adviser to the Excise Commissioner, United Provinces, in all matters connected with power alcohol.

Manufacture and use of power alcohol—Only one distillery at Meerut is equipped to produce power alcohol. The distillery started production about the beginning of March, 1941; the working of the plant has been entirely satisfactory. The plant operates on the azeotropic process and has a capacity of about 2,000 gallons per day. Due to various causes, such as the inability of the railways to provide tank wagons, delay in the installation of the mixing equipment in the petrol depots and the scarcity of barrels for transporting power alcohol, the Power Alcohol Act could not be enforced during the year under review. Arrangements were, however, completed for the district of Agra, where the Act came into operation in April, 1941.

CHAPTER V

General Activities of the Department

Board of Industries

Personnel—There has been no change in the personnel of the Board during the year except that the Controller of Supply, United Provinces, was added to the list as an *ex officio* member.

Meetings—Only one meeting of the Board was held on 11th September, 1940. Several applications for grant-in-aid and for extension of time-limit for utilization of the grant and reports on utlization of previous grants were considered. Grants were allowed to the firms and individuals noted below:

1. Mr. Ghanshiam Dass, Proprietor, The Ideal Cottage Industries, Prem Nagar, Cawnpore, for purchase of machinery to enable him to manufacture tricycles and perambulators—Rs.1,750.

2. Mr. Mohammad Naqi, Proprietor, The Light Casting Co., Lucknow, for purchase of machinery for manufacturing Bib cocks, etc.—Rs.5,000.

3. Mr. K. C. Goswami, Proprietor, Messrs. K. C. Goswami & Co., Sasni, district Aligarh, for purchase of necessary machinery for manufacturing cutlery—Rs.2,600.

4. Mr. Kanhaiya Lal Gupta, Benares, to enable him to make machines for manufacturing cold drink pipes from wheat stalks—Rs.500.

5. Mr. Mohamad Ahsan, Proprietor, The Union Clock Works, Fatehgarh, for purchase of additional machinery required by him for making clocks—Rs.2,000.

The grantees experienced a lot of difficulty in securing the desired machinery and appliances and since under recent orders of the Government grants are now to be paid only when they are required by the grantees for immediate disbursement grants could not be availed of in the last three cases noted above till after the close of the year.

Policy—The funds placed annually at the disposal of the Board of Industries were allotted so far for—

(*a*) Grants to new industries, that is, industries that have not so far been established on a firm basis in this Province.

(*b*) Grants to new or experimental types of industrial organizations.

(*c*) Grants for the testing of new but promising processes tools, plant and machinery, etc., and

(*d*) Grants for the marketing of products and for experimental or research schemes which would, in the opinion of the Board, contribute towards the industrial development of the Province.

During the year at my suggestion, United Provinces Government decided that during the War the Board of Industries should in making grants in future, give preference to such industries as are likely to produce articles required for war purposes.

U. P. Industrial Financing Corporation, Ltd., Cawnpore—Lala Padampat Singhania was renominated for another one year as Chairman of the Corporation. A sum of Rs.9,396-5-8 was paid to the Corporation as subsidy on the result of their working during the period from 1st December, 1939 to 31st March, 1940.

On account of the unprecedented situation created by War, almost all exports and imports have stopped and this affected the business of the Corporation to a great extent but still loans—both long term and short term—were advanced to individuals and concerns of the aggregate amount of nearly five lakhs. Among the industries that were assisted mention may be made of Match manufacturing, Ice making,

Geometrical Box manufacturing, Spinning and Weaving of cloth, Sugar refining, Leather goods manufacturing, Moulding of iron and brass, Steel rolling, Tent making and certain other industries connected with the supply of materials for war purposes.

Metal Syndicate, Aligarh—On account of internal competition the condition of metal industry generally and locks in particular was deteriorating day by day. After prolonged efforts the Department has been successful in forming a Metal Syndicate at Aligarh. The object of the Syndicate is to stop internal competition in metal goods, standardize and hall-marking them, and to arrange for marketing of finished products. The Syndicate has not yet begun functioning but it is anticipated that it will soon start working. At present it is engaged in making preliminary preparations. Government sanctioned a grant of Rs.1,500 to it.

U. P. Handicrafts, Lucknow—The Government Arts and Crafts Emporium and the Government Handloom Emporium were formally amalgamated during the year and the institution was given a new name—Government United Provinces Handicrafts.

A joint show-room of the two institutions was opened at Hazratganj in the buildings formerly occupied by Messrs. Whiteways Laidlaw & Co. The new show-room was a great success. The Arts and Crafts Department did a record sale amounting to Rs.35,737-13-6 the biggest since the inception of the institution. Similarly the Textile Section did new business at the Hazratganj show-room amounting to Rs.28,518-14 in addition to the sales of Rs.36,615-1-6 effected by the Aminabad show-room.

Below is the report of the two departments of the Government United Provinces Handicrafts separately.

Textile Department

Supply of Army blankets—Textile Department was busy during the year with the supply of Army blankets. An order for the supply of 45,000 blankets by the 30th September, 1940, and another order for the supply of 60,000 blankets by 31st March, 1941, was received from the Government of India. Both the orders were supplied according to specifications and in time. There were almost no rejections in the supply of 1,05,000 blankets costing Rs.7,35,000. It is estimated that the cottage workers gained about Rs.60,000 in the shape of additional wages. This became possible only because the entire work was done through the Industries Department. Government United Provinces Handicrafts worked as the Central organization. Naturally quite a large number of members of the Handicrafts were drafted to the Army Blanket work. The Manager and Controller had also to give most of their attention to the supply work which to a certain extent effected the regular business.

Co-operative Societies—According to the approved Handloom Scheme, the Department has been trying to develop Handloom Stores organized by it into Co-operative Stores. Of the six main Handloom Stores, four are already Co-operative Stores and the Department gave a grant of Rs.17,641-10 to these four stores to meet the cost of staff, contingencies and to cover the loss on account of new experiments. Besides these main stores, 8 smaller co-operative production and sale societies were assisted with grants.

The transfer of the control of the main Development Stores to the Co-operative Societies has not yielded very satisfactory results. These Stores are meant to develop the handloom industry at a particular place by introduction of new designs, improved appliances and by standardization of production. This work can best be done by the Department. The question of division of functions of the main development stores is under examination and the two remaining development stores have, therefore, not been handed over to Co-operative Societies.

Designs—A Designs Committee has been formed to advice the Handicrafts in matters of colours and designs.

About 53 designs were evolved in weaving and printing during the year. Outstanding among them were the thick upholstery cloth produced in Amroha store; another beautiful upholstery material produced at Mau and a few new designs of Turkish towels evolved at and introduced through the Gorakhpur store.

The printing designs produced by the School of Arts and Crafts and Central Textile Institute were introduced. Some of them proved to be very popular.

As last year due to shortage and high price of dyes and chemicals and also to the rise in price of yarn the designs could not be produced to the extent the Handloom Section used to introduce in previous years.

Sales—The total sales of the Handloom Section amounted to Rs.2,27,000. This does not include the sales done by the Stores direct. There was a decrease in the sales of this Section due to the fact that three of the six Commercial travellers were busy with the Army blanket supply while the services of four Rural Canvassers were transferred to the Co-operative Societies. This reduced the sale staff of the Handloom Department considerably. The remaining Commercial travellers toured the Punjab, Bengal, Bihar and a part of the Central Provinces. It is however very gratifying to note that some of our agents specially those of Lahore and Rawalpindi materially helped us in increasing the sale.

Supply of Dyestuffs to the Handloom Weavers—During the year under report it was apprehended that there would be a shortage of fast dyes in the Province and it was therefore decided to participate in

the scheme of distribution of dyes of the Governmnt of India who had a large stock of surplus dyes. This department purchased dyes worth Rs.1,65,000 for being distributed among the Co-operative Societies of Handloom Weavers and Printers, United Provinces Handloom Emporium and other Government departments. The dyestuffs have been kept with the Principal, Government Central Textile Institute, Cawnpore, who is the controlling officer of the scheme. Necessary arrangements for the distribution of these dyes are being made.

Arts and Crafts Department

During the year under report the Arts and Crafts Department was re-organized.

The huge stock of brass accumulated in the Arts and Crafts Emporium was renovated during the year and sold in the show room. Unfortunately a very large quantity is still in hand. We also received back during the year the remnants of the Exhibition goods lying with the Agents in Bombay and Calcutta and others. This restricted the purchase of the Arts and Crafts from the market.

The total sales during the year was Rs.58,645-8-8. The Arts and Crafts registered highest local sales and lowest expenditure during the year.

Designs—Many new designs were introduced during the year specially in tea-sets, Khurja pottery, enamelled brassware, painted Nizamabad ware and Bidar work. A few new lines were included in Arts and Crafts Department like churies, improved Chunar potteries, hand-paper, etc., etc.

Advertisement and Publicity—The Government United Provinces Handicrafts participated in the following exhibitions either direct or through the agents :

Direct participation.	*Through Agent or R. D. Stores.*
(1) Naini Tal.	(1) Nauchandi.
(2) Mussoorie.	(2) Bhagalpur.
(3) Benares.	(3) Gwalior.
(4) Gauri Fair.	(4) Muzaffarnagar.
(5) Baradari Exhibition, Lucknow.	(5) Garhmukteshwar.
(6) Fyzabad.	(6) Dehra Dun.
(7) Allahabad.	(7) Hardoi (The Sandila Store).
(8) Aligarh.	(8) Akbarpur (District Fyzabad through Rural Development Store).

Direct participation.	*Through Agent or R. D. Stores.*
(9) Bulandshahr.	(9) Banda Exhibition (through the Divisional Organizer, Jhansi).
(10) Fatehgarb (District Farrukhabad).	(10) Lahore Exhibition (through Montgomery agent).
(11) Rae Bareli Exhibition.	(11) Etawah Exhibition (through Rural Development Store, Etawah).
	(12) Monghyr Exhibition (through Messrs. Bhagwan Das and Mahabir Prasad, Monghyr).
	(13) Nighaba (Lyallpur) (through Agent).

The United Provinces Handicrafts put up a good show in the Glass and Cottage Industries Exhibition, Kaisarbagh, Lucknow, where the goods displayed were very much appreciated.

The Governor was pleased to pay a visit to the Government United Provinces Handicrafts on 15th December, 1940, and was pleased to state as follows :

> "The Emporium in Hazratganj is also excellent with all the articles for sale arranged very attractively."

Demonstration and Exhibition—The Department did not participate in as many exhibitions this year as in the previous years, but it organized an exhibition of its own at Lucknow at which all the activities of the department were demonstrated. Demonstrations were given in glass bead making which was a special feature of the exhibition, handloom weaving on modern improved appliances, dyeing and printing on scientific lines, furniture making, leather tanning, handmade paper making and gur making, etc.

Twelfth Industries Conference—The 12th Industries Conference was held at Lucknow on 16th, 17th and 18th December, 1940. The Province was represented in the Conference by the Adviser to His Excellency the Governor (Development), Secretary to Government, United Provinces Industries Department, Director of Industries and Commerce, United Provinces and Mr. B. K. Ghoshal, Assistant Director of Cottage Industries, United Provinces.

Technical assistance and advice—In addition to the technical assistance rendered and advice given to various industries through agencies specially organized for development of particular industries, such as glass industry, the Government technical and industrial institution continued to render service by rendering technical advice and

assistance to several firms and industrialists in solving their difficulties. The following are some of the few important instances which are merely illustrative :

(1) *Harcourt Butler Technological Institute, Cawnpore*—

(*a*) *Oil Section*—The Oil Section of this Institute received and attended to 328 inquiries (as against 306 of the previous year) from oil mills, soap factories, paint and boiled oil concerns, vegetable oil refineries, hydrogenation of factories as well as from persons interested in starting new concerns. In the inquiries mentioned above, there were 132 inquiries of the major type including difficulties in working processes, expansion of the existing concerns, improvement of plants, schemes for starting new oil mills, vegetable oil refineries, hydrogenation plants, boiled oil and paint factories. Two factories were supplied with the necessary information and drawings etc. for getting some units of the oil refineries made in India as it was not possible to get these units from foreign countries on account of war conditions. Technical staff was sent to three factories in the Province at the cost of factory owners for assisting them in improving their plant and the system of running them efficiently. In addition to this, the technical staff was sent to the oil mill of the Central Jail, Lucknow, on several occasions for erecting the Expeller and Ghanni Oil Mill, to remove their various other difficulties and to train their staff. As a result of the assistance, the Central Jail Oil Mill is now yielding about 4 to 5 per cent. more oil than what the authorities used to get from bullock and hand driven appliances. Six new oil mills have been erected in this Province during the year under report, four old oil mills have increased their crushing capacity and three of the old existing oil mills have stopped crushing.

One hundred and fifty samples as against 382 in the last year were analysed as detailed below :

(1) Samples received from Government Departments ..	62
(2) Samples examined with a view to improve the products of oil and allied industries	51
(3) Samples analysed on payment of fee (Rs.564 was realized)	37
Total ..	150

Final report with audited accounts regarding the scheme for the supply of decorticated cotton seed cake for educative propaganda financed by the Imperial Council of Agricultural Research was submitted during the year under report. The Central Ghee Control Laboratory financed by the Central Government continued to function at the Institute under the supervision of the Oil Expert. During the year under report, the grading of edible oils was also introduced on the same lines as the Ghee Grading Scheme. The number of Ghee grading and packing station that functioned in India during the year,

under the Agricultural Produce (Grade and Marking) Act, 1937, was increased from 50 to 60 out of which 28 belonged to this Province. Five oil grading stations are also functioning in India out of which two belong to this Province. This involved examination of 4,422 samples (4,195 Ghee and 227 oil samples). Work in connexion with the grade standardization of edible oils and preparation of pamphlets on the standard methods of analysis and details of laboratory equipment for the guidance of the oil and vanaspati grading stations and laboratories was also done. In addition, Refresher Course training was given to 15 chemists deputed by the Agricultural Marketing Officer to the Government of India and the Department of Health, Sind, at the Central Control Laboratory in the analytical methods for the examination of ghee and oils.

The Oil Section also carried out analytical and investigation work and supplied technical information to the various Government Departments and Universities as noted below :

(1) Agriculture, Co-operative and Jail Departments of the United Provinces.

(2) The Imperial Council of Agricultural Research, Delhi.

(3) Agricultural Marketing Adviser to Government of India, Delhi.

(4) The Imperial Dairy Department, Bangalore.

(5) The Board of Scientific and Industrial Research, Calcutta.

(6) The Imperial Veterinary Research Institute, Izatnagar, Bareilly.

(7) Department of Applied Physics, Calcutta University, Calcutta.

(8) East Indian and Great Indian Peninsula Railways.

(9) The Neutrition Research Laboratory, Coonoor.

(10) The Department of Health, Sind, Karachi.

(11) The Departments of Agriculture and Developments of Bombay, Central Provinces, the Punjab, Bihar, Sind, Orissa, North-West Frontier Province, Kashmir, Gwalior and Baroda.

(*b*) *General Research Section*—More than 200 technical enquiries received from various provincial and central Government departments, industrialists, factories, states and individual persons were attended to. Broadly, the nature of enquiries concerned the following heads :

(*a*) Difficulties in running processes.

(*b*) Preparation of new products.

(*c*) Modification of existing processes.

(*d*) Information regarding sources of raw materials, their qualities, and suppliers of the required chemicals, drugs, equipment and other materials.

(*e*) Recipes.

(*f*) Assay of the products required in the industry.

(*g*) Experimental comparison of the locally made products with standard materials with a view to find out defects, if any, and to suggest their removal.

(*h*) Notes on the existing conditions of industries and possibilities of their expanison, and

(*i*) Advice to individuals who want to take up manufacturing business.

Some of the enquiries involved a considerable length of time for instance evolving of suitable processes for large scale quick and more efficient method for the extraction of tobacco for the purpose of preparing *Kimam.*

Formulae and costing of several widely used products (noted below) were worked out:

(*i*) Dental powder ;

(*ii*) Vanishing cream ;

(*iii*) Face Powder ;

(*iv*) Liquid disinfectant ;

(*v*) Blue black writing ink ;

(*vi*) Shoe cream ;

(*vii*) Shoe polish ;

(*viii*) Liquid metal polish.

A note on the problem of sulphur in India giving all available local sources and suggestions for utilization of new sources was written for the Government.

Information regarding equipment, raw materials and present manufacture of starch was supplied to various parties including Department of Industries, Sind.

Analytical and scrutiny work— The following samples received from different sources were analysed and reported on :

	Number of samples
(i) Excise Department (Denatured spirits and denaturants) ..	119
(ii) Stores Purchase Section	37
(iii) Miscellaneous sample from the public, Government and Industrial concerns	187
Total ..	343

Tenders for coal, scientific apparatus, chemicals, soap, boot and shoe polishes, metal polish, etc. were scrutinised and advice given. Questions regarding the quality of the supplied samples were also dealt with.

Facilities were provided for undertaking investigations and experiments to Messrs. Hind Chemical Company, Limited, Cawnpore, Messrs. Tallow Products Company, Cawnpore and Messrs. Northern India Oil Industries Limited, Cawnpore, as the firms concerned had no suitable equipment for the purpose.

Head of the Oil Section also attended the following Conferences and meetings and prepared material for the same:

(1) Chemical Sub-Committee's meeting of the National Planning Committee held at Bangalore from 27th to 29th August, 1940.

(2) Ghee Packers Conference, organized by the Agricultural Marketing Adviser to Government of India and held at Delhi on the 19th and 20th February, 1941.

Dr. N. G. Chatterji, Lecturer in Oil Chemistry, attended the meeting of the Power and Fuel Sub-Committee of the National Planning Committee held at Bombay on the 6th and 7th May, 1940, and prepared material for the same.

The Industrial Chemist attended the Glass Advisory Committee meeting and the meeting of the Optical and Scientific Glass Sub-Committee and also attended the meeting of the Salt Research Committee at Bombay with the Director of Industries and Commerce, United Provinces. He also visited the Jute Technological Research Laboratory, Calcutta, and the Benares Hindu University for discussing the various problems of research.

During the year, the members of the staff of the Institute wrote the following bulletins :

(1) Power Alcohol—Its use as motor fuel in the United Provinces.

(2) Possibilities of the commercial utilization of linseed fibre.

Grant applications—Thirty applications for grants, ranging from the manufacture of chemicals to match manufacture, were scrutinized in details.

Publicity Work—Industrial Chemist was a technical member of the newly started Publicity Board of the Department which is an informal body and scrutinize 25 bulletins so as to maintain a suitable standard for the bulletins.

Government Central Wood Working Institute, Bareilly—The institute helped the wood-working industry in general and supplied free of cost 2,062 blue prints and line block prints, 86 bed room suite prints and 506 pencil drawings. One hundred five enquiries of technical nature concerning problems of every branch of the wood-working industry were attended to during the year. Wooden toy illustrations were sent to the Rural Department Magazine "Hall".

Government Central Weaving Institute, Benares—Two hundred and five enquiries concerning problems of every branch of handloom weaving were attended to during the year.

Experiments and Researches

Important researches and experiments done during the year are given below :

Harcourt Butler Technological Institute, Cawnpore—

(*a*) *Oil Section*—

(1) Examination of ghee and other fats under Ultra-violet light (continued from previous year).

(2) Study of the keeping qualities of oils under different conditions of storage (continued from previous year).

(3) Study of the industrial uses of castor oil and its products—Dehydration of castor oil for use in paints and varnish industry.

(4) Examination of micaceous iron ore from Central Provinces with a view to utilize it for the manufacture of anti-rust paints.

(5) Preparation of varnish from the indigenous raw materials and production of oil dressed fabric as per Government specification no. T-200.

(6) Preparation of cutting compounds.

(7) The possibility of using red palm oil as a source of Vitamin "A" for vitaminizing edible oils or vanaspati.

(8) Preparation of Digitonin from Digitalis seed.

(9) Microscopic examination of sterol crystals for detection of vegateble oil or fat adulteration in ghee.

(*b*) *General Research Section*—

(1) Manufacture of potassium carbonate from saltpeter which is abundantly available in the Province.

(2) Preparation of sodium sulph from Khari salt and other locally available materials.

(3) Processes for the manufacture of dry potato chips for edible purposes.

(4) Possibility of the preparation of tobacco extracts (*kimam*, etc.) by modern equipment with a good efficiency and quicker output.

(5) Preparation of proflavin.

(6) Laboratory and semi-large scale preparation of calcium gluconate.

(7) Preparation of Induline and Nagrosine dyes.

(8) Preparation of cold smelling starches.

With the exception of item no. (4) above, all the other items are of direct importance in the war period. The production of these is likely to remove the deficiency of these drugs and heavy chemicals at the present time and to serve as the basis of new chemical industries afterwards.

Publications—The following papers were published during the year :—

(1) The Utilization of Kamela dye in the colouring of food stuffs and beverages.

(2) Possibilities of improving glue manufacture in the United Provinces.

(3) Problem of sulphur in India.

(4) Possibility of manufacturing of soda ash from the alkaline deposits available in the Khairpur State.

(5) Preservation of eggs with oteg.

A special allotment of Rs. 1,500 was given to the Institute for the following purposes :

		Rs.
(a) Designing and making of small size ghanni (b) Use of industrial alcohol for lighting purposes	.. ..	400
(c) Preparation of medicinal chemicals such as Salicylic Acid, its sodium salts, aspirin, calcium gluconate etc.	..	1,100
Total	..	1,500

Regarding (*a*), the results have been found to compare favourably and the re-cast ghanni is considered to be efficient.

Regarding (*b*), investigations were undertaken primarily with the designing of a cheap kind of incandescent mantle lamp burning methylated spirit and not requiring compressed air for combustion and heating. Such a burner has now been designed and the Municipal street lighting model has been made—a sample lamp was exhibited in a lighted condition in the Lucknow Exhibition. Work is now in hand producing various models of such lamps.

Regarding (*c*), a series of experiments were undertaken and useful data and practical conclusions have been arrived at regarding the manufacture of Calcium Gluconate which is an universally used drug.

Technical Institute, Lucknow—A special grant of Rs.1,350 was sanctioned and utilized on the experiments carried out for the manufacture of small machines and tools such as picture frame moulding machine, lozenge and *siwai* making machines, paper cutting and rope making machines, ice cream freezers, polishing lathe and small workshop tools such as vices, rackets and braces, etc. The following machines have been completed :

(1) Tablet machine with big die for making large tablets.

(2) Ball grinding mill.

(3) Powerful fly press.

(4) Shearing and angle iron cutting machine.

(5) Electroplating generator.

(6) Pulley for drawing water with ball bearings.

(7) Electric bells 6 volts and 220 volts.

(8) Paper cutting machine (hand) foolscap size.

Government Central Wood Working Institute, Bareilly—Further experiments on construction of lamin boards of fair sizes were continued. Number of articles such as doors of cocktail cabinets, tops of dining tables, side panels of beds, fronts of chest of drawers were made of lamin boards and supplied to different customers. The press built up last year has been of great help to make lamin boards of wider dimensions.

New designs of wooden toys, e.g. armoured tank, 'G' man car, big motor bus, tank with ten guns, etc. were introduced during the year. Further improvement has been made in the manufacturing processes of wheels and fittings. Bamboo articles have been substituted in place of costly galvanized wires. Nickelling of metal parts has been replaced by cheaper enamel fitting. New stencils have been made to get decorative figures sprayed on bodies of toys. Designs of new toys are being published occasionally in the "Hall" magazine. Toys worth Rs.1,283-3 were made and to the value of Rs.974-4 were sold. Besides a few other concerns, an ex-student of the Institute has started a toy-making concern in Bareilly known as "Bharat Wooden Toy Company"—all assistance in the shape of supplying designs, ready made wheels and fittings etc. is being given.

Drum milling equipments were used to be imported from outside. Three such drums were supplied, one to Co-operative Society of Textile Workers at Najibabad, and two to Government Model Weaving School, Muzaffarnagar.

Owing to high prices of metal fittings, it was not possible to supply such metal fittings as knobs, handles, drawer pulls within the fixed market prices of the furniture. Consequently a number of decorative handles were constructed from rose wood—such fittings are being displayed in the Institute Museum.

Inlaid ivory boxes being costly, celluloid has been introduced for inlay work and a number of such boxes of various designs were made and displayed.

Bamboo toys of various sizes are being made from bamboos available in the local market.

The possibilities of manufacturing baskets from waste veneers was also investigated. As a result of investigation, some of the local basket makers who collect waste veneers from the local match factories have taken up this work.

Government Central Textile Institute, Cawnpore—A grant of Rs.450 was sanctioned for evolving a model finishing machine for woollen goods out of which Rs. 429-2 was utilized during the year. Samples have been taken out on this wool finishing machine.

In Handloom Research Section, investigation in certain indigenous dyes for improving the fastness was undertaken and completed for pomegranate rind and kamela dyes and is now embodied in a bulletin.

Bleached samples of sunn hemp were produced on a large scale and have been satisfactorily reported upon by the Jute Cess Laboratories. Cleaning and spinning experiments on improved hand appliances are in progress and some of the utility samples including netting were exhibited at the Lucknow Exhibition. Further investigation is in progress.

Twenty-five printing designs suitable for *sari* borders and body and for *lihafs*, table cloths, curtains, etc., were produced and several of these were cut into blocks for block printing or into stencils for spray printing. Many of these were taken up by several of our grantees as well as these were passed on to the United Provinces Handloom Emporium.

Fifty designs of various kinds suitable for materials like mufflers, coatings, shirtings, ladies bags and also those illustrating use of indigenous dyes in the manufacture of heavy and light fabrics, were produced. Samples of wool, cotton and union beddings, double-faced plush cloth and woollen pile cloth were also produced.

Government Central Weaving Institute, Benares—A grant of Rs.1,000 was sanctioned for conducting experiments of Tat Patti weaving and preparing heavy warps for the same and such other purposes. Rs.993-13-4 were spent out of this allotment. No substantial work, on account of the machine having been received in the end of January, 1941, could be done and the experiments will be carried on next year.

The experiment to improve the automatic loom ordered from Bombay was further perused this year. Many minor changes and improvements were made and the loom is now giving good results but further experiments that are necessary will be continued next year to make the loom fully useful and serviceable.

Besides, a number of labour saving machines and appliances were evolved and a number of new designs and fabrics were also made and woven at the Institute.

Metal Working School, Aligarh—Experiments in the following continued :

(1) Chromium Plating—These were quite successful and a number of firms have taken up this work.

(2) Modern House Fittings—A variety of these were prepared and introduced in the local industry.

(3) Drum Polishing and Plating—Both the plants were installed on which successful experiments were conducted with the result that nearly all the big suppliers have installed these plants which have proved economical.

CHAPTER VI

Technical Education

There was no change in the system of technical education during the year under report.

The Committee appointed by Government under the Chairmanship of Lala Shri Ram of New Delhi (now Sir Shri Ram) to consider and report on what lines the Central Textile Institute, Cawnpore, the Central Weaving Institute, Benares, the Technical Institute, Lucknow, the Technical Institute, Gorakhpur, the Central Wood Working Institute, Bareilly and the Government Carpentry School, Allahabad, should be re-organized, has submitted its report which is receiving the attention of the Government.

Admission—Out of 2,598 applications (against 2,823 of the previous year) received for admission, 1,384 were selected against 1,494

in the previous year. The quality of students who applied for admission continued to be satisfactory. The number of artisan students was 590 as compared with 619 of the previous year. The details of enrolment are given below :—

——	1938–39	1939–40	1940–41
Application for admissions	2,760	2,823	2,598
Admissions	1,549	1,494	1,384
Enrolment at the close of the year	2,152	2,153	2,086
Number of artisan students	770	619	590

Budget allotment and expenditure—The number of Government Technical and Industrial institutions remained the same, i.e. 23. The grant and the actual net expenditure on industrial education are shown in the following table :

	1937-38	1938-39	1939-40	1940-41
	Rs.	Rs.	Rs.	Rs.
Grant	11,74,659	13,69,946	15,31,424	11,02,072
Expenditure	11,36,031	13,64,392	13,00,034	21,55,819

Stipends and Scholarships—The details of stipends and scholarships awarded in the Government Technical and Industrial institutions are shown below :—

Year	Stipends		Scholarships	
	Number	Cost	Number	Cost
		Rs.		Rs.
1939–40	554	30,819	198	18,980
1940–41	550	30,756	177	18,067

Examination—The following statement gives details of number of students who appeared and passed in the final year examination

of all the Government industrial institutions, the number of external examiners appointed and expenditure incurred in that connextion :—

	1939–40	1940–41
Candidates for the examination	600	680
Candidates successful in 1st Division	140	159
Candidates successful in 2nd Division	189	209
Candidates successful in 3rd Division	214	226
Suspended for misconduct	Nil	Nil
Awarded A. H. B. T. I.	1	1
Awarded F. H. B. T. I.	Nil	2
Candidates who failed	57	86
Number of external examiners	40	42
	Rs. a. p.	Rs. a. p.
Fees paid to examiners	2,406 7 3	2,570 14 0

The number of departmental examiners was the same as in the previous year, i.e. 20.

Aided Institutions—Detailed information regarding aided institutions has been given in Appendix I of this report. Grants-in-aid (recurring) amounting to Rs.94,150 were paid to these institutions during the year against Rs.92,534 in the previous year. In addition non-recurring grants amounting to Rs.6,138 were paid to the institutions noted below :

	Rs.
Mahila Dastkari School, Meerut	1,500
Depressed Class School, Lukerganj, Allahabad	240
Nalini Nari Seva Samiti, Benares	600
Harijan Sewak Sangh, Allahabad	1,738
Aligarh Metal Syndicate, Atta	1,500
Aligarh Memorial School, Khatauli	560
Total ..	6,138

Foreign Technical Scholarships—There was no award during the year due to the conditions created by the War.

Out of the scholarships awarded in previous years, arrangement for training of three short-time scholars was not completed as mentioned in the previous report. Out of these three, awards to two scholars have been postponed for the period of War as the scholars did not find it possible to proceed abroad due to the situation created by the War. Arrangement for the training of the third scholar, in the manufacture of the salt cakes in Japan could not be made and this scholarship had also to be postponed for the period of War. One long-term scholar after finishing his studies and training completely in Radio Engineering returned from England this year. He graduated in B.Sc. (Engineering) of the London University with first class Honours.

Government Institutions—The details of expenditure, admissions, total number on the rolls, examination results and similar statistical information regarding Government technical and industrial institutions have been given in Appendix II. A brief account of the more important institution is given below :

Harcourt Butler Technological Institute, Cawnpore—There were no changes in the staff of the Institute, the Director of Industries and Commerce, United Provinces, Cawnpore, continued to be *ex officio* Principal of the Institute.

Ten students of the Oil Diploma Course appeared in the final examination and all passed – 8 in the 2nd and the remaining 2 in the 3rd division. One student of the 2nd year General Research Section submitted his experimental work on preparation of celluloid and nitrocellulose lacquers. The work was examined by an external examiner and approved for the award of the Associateship Diploma of the Institute (A.H.B.T.I.). The examinee was placed in the 2nd division.

Two students completed their two years post diploma course at the Institute and were awarded the Fellowship Diploma of the Harcourt Buttler Technical Institute (F. H. B. T. I) after the approval of their thesis by an external examiner. Reports received from the examiner mentioned that the quality of work turned out by the students was satisfactory and of a high standard.

Eight students were receiving training from provinces other than the United Provinces on payment of tuition fees.

The Institute Experimental Model Oil Mills worked for 299 days. The working of the factory was satisfactory and supply of seeds for crushing purposes was maintained throughout the year.

It is gratifying to note that the firms of two ex-students of the Institute are now supplying large quantities of hydrogen peroxide and high quality glue satisfying the military requirements.

Three students were trained in Applied Chemical Research and the methods of solving problems. Besides two short course students also worked on specific problems.

An account of experiments and researches conducted and technical assistance rendered has been given in a preceding chapter.

Government Technical Institute, Lucknow—Fifty-five candidates appeared at the City and Guilds of London Institute examinations at this centre out of whom 32 came out successful. Amongst the passed students, 22 were from the Institute.

Forty-eight students took their examination from the various sections and 47 came out successful.

There were some changes among the teaching staff of the Institute during the year.

The classes for the training of War Techanicians started at the Institute from 10th February, 1941—the enrolment was 86 on 31st March, 1941.

The Institute Scout Group took part in all the Scout activities of the Local Scout Association and obtained various prizes for the meritorious services. Besides the Institute team's participated in the activities of the Schools and Colleges Athletic Assciation, Lucknow, and obtained II place in the Football League (Senior Division) and Open Field and Track Meets.

Government Technical Institute, Gorakhpur—The final year students were taken out on technical tour to Lucknow and Cawnpore, where nine factories and mills etc. were visited. The Institute participated in the Glass and Cottage Industries Exhibition, Lucknow, where a number of tools, models, appliances including a number of useful machines made from raw materials at the Institute were exhibited and demonstrated. Out of 49 students sent up for the examination, 4 were placed in 1st division, 10 in the 2nd division and 20 in the third division and the remaining 15 students failed. The students took part in scouting and attended District Scout Rally at Khalilabad and Gorakhpur and secured prizes in different activities. One instructor was deputed temporarily for about a month to the Benares Gur Development Centre for training candidates in the repairs and upkeep of bullock-driven cane crushers. Mr. A. S. Yadav (the permanent Principal) is on leave on medical grounds since 11th December, 1940.

Government Technical Institute, Jhansi—Eighteen candidates sat for the Final Examination and seventeen passed. All the 20 apprentices who completed their term in January, 1941, have been engaged in service by the Great Indian Peninsula Railway.

Government Central Wood Working Institute, Bareilly—The permanent Wood Technologist (Mr. S. B. Naidu) was suddenly taken ill and expired on 2nd February, 1941, after a very brief illness. Mr. J. T. Dass officiated for him. Mr. Naidu was responsible for expanding the various activities of the Institute. Furniture orders valued at Rs.23,548 were passed on to the trade against Rs.38,944 in the previous year. Orders worth Rs.1,548 were placed exclusively with village carpenters. The village carpenters supplied three Milling Drums during the year to the order received from the Principal, Government Central Textile Institute, Cawnpore. Sixty-four students sat for the final examinations and all passed. The Institute participated in four exhibitions this year. The sales at these exhibitions were satisfactory. The Principal also acted as an Honorary Assistant Technical Recruiting Officer for Bareilly and Shahjahanpur Districts. Candidates for various catagories are entertained and after giving them training in the Institute are sent up for Trade Tests. Training is given to the recruits to make them Fitters and Electricians. The Institute has also been approved for the training of war technicians under the Government of India scheme.

Government Carpentry School, Allahabad—Forty-four students appeared at the final examination out of whom 43 passed. The school participated in the following exhibitions :

(1) All-India Swadeshi Exhibition, Allahabad, from 26th October, 1940 to 14th November, 1940.

(2) All-India Magh Mela Agricultural and Industrial Exhibition, Allahabad, from 23rd January, 1941 to 4th February, 1941.

Furniture of improved designs and construction was displayed in both the exhibitions. Demonstration was also given in the use and manipulation of modern tools and appliances, in modern manufacturing methods, wood finishing and the use of modern furniture fittings. The Scouts of the school participated in all the Provincial and District activities.

Government School of Arts and Crafts, Lucknow—Out of 42 students who appeared in the final examination 36 were successful. The school participated in the Khadi and Industrial Exhibition, Lucknow. Demonstration in clay modelling and Papier machè works were also given. Besides, the school participated in Mysore Dasehra Exhibition, District Board Rae Bareli Exhibition and Charkhari State Exhibition by sending exhibits only. The Annual Exhibition of the school held in December, 1940, was opened by Lady Hallet. The special exhibits consisted of the paintings by Miss Alice Boner—these were interesting on account of the plastic quality of her art.

Government Central Textile Institute, Cawnpore—In the Diploma Course, 23 students appeared in the final examination, out of whom 20 passed. In the Artisan class, the result was cent per cent. In the City and Guilds of London Institute Examination, 30 students appeared from the Institute and 26 passed. One student secured the first prize of £2-10 cash and medal in Cotton Spinning. The Institute participated in the All-India Swadeshi Exhibition, Allahabad, and Goverment Glass and Cottage Industries Exhibition and gave demonstrations in dyeing, printing, weaving, designing etc. on modern lines for the improvement of cottage workers. Exhibits were also sent to five exhibitions and fairs. Seven students were given short-time training in solving specific difficulties for development of their cwn business. A 72-inch loom was presented by the New Victoria Mlls Co., Ltd., Cawnpore, and a circular Winding Machine by Messrs. J. K. Cotton Spinning and Weaving Mills Co., Ltd., Cawnpore. Thanks of the department are due to both the abovementioned Mills. Sir Harry Horsman of the Swadeshi Cotton Mills Co., Ltd., Cawnpore, awarded a cash prize of Rs.50 to Mr. Kapoor who stood first in the City and Guilds Examination this year. The 2nd Textile Assistant (Mr. B. V. Raman) has been deputed to the Indian Stores Department as Inspector of Stores (Textiles). The Institute has a corps of 24 Rovers who make themselves useful on the occasions of the various local melas and fairs. The Institute produced 25 painting designs and 50 wool designs which were passed on to cottage workers and Government Handloom Emporium, Lucknow. A Textile Design Competition was started this year.

Government Central Weaving Institute, Benares—Out of 107 students who appeared at the examination 91 passed. Three students of the Institute passed the City and Guilds examinations. A number of new improved labour saving machines and appliances besides minor improvements in the existing machines and new designs of fabrics were designed and evolved during the year under report. Besides regular classes, a number of special students who are already engaged in the industry and wanted to acquire further theoretical knowledge and practical experience in some particular branch were also trained. Scouting was started in this Institute during the year under report. The Institute was visited by the Director General of Agriculture, Ceylon and Captain Kishen Bahadur Singh (deputed by His Honour the Director General of Nepal).

Demonstration of newly evolved machines, labour saving devices and appliances such as multiple winder, fully automatic tape loom, yarn printing charkha, iron frame Jacquards and Dobbies mounted up on looms producing new and attractive fabrics were given at the Glass and Cottage Industries Exhibition, Lucknow. Three elaborate Jacquard designs were also sent as exhibits at the Art and Industry Exhibition, Calcutta.

Government Leather Working School, Cawnpore—The services of the permanent Principal (Mr. L. N. Srivastava) have been temporarily transferred to the Government of India, for the duration of the War in March, 1941, and Mr. P. N. Bahadur (Superintendent, Government Leather Working School, Meerut) is officiating as Principal. During the year under report 27 students appeared in the final examination and 25 were successful. One Intermediate passed and 6 High School passed were admitted during the year. The school participated in Khadi and Industrial Exhibition, Lucknow, and Glass and Cottage Industries Exhibition, Lucknow, by sending exhibits and giving demonstrations. The school participated in several other exhibitions also by sending exhibits. Out of 25 students who passed this year, 18 have secured employment in Messrs. Cooper Allen and Government Harness and Saddlery Factory and Inspectorate of General Stores and Clothing and Bata Shoe Factory.

Government Metal Working School, Aligarh—The result of final examination was cent per cent. The permanent Superintendent (Mr. B. S. Jaiman) has been appointed as Boiler Inspector and Additional Inspector of Factories, United Provinces. The Superintendent also acted as Honorary Assistant Recruiting Officer of Aligarh Circle and rendered assistance in securing suitable recruits. Two youngmen deputed by the Bengal Government are receiving training at the school in lock making. The school participated in the local District Sports Association tournaments and also maintained a Scout Troop which rendered service to the public on several occasions. Demonstrations were given at the Government Glass and Cottage Industries Exhibition, Lucknow, and at the local Government Horse Show and District Fair. A gold medal was awarded to the Officiating Superintendent in recognition of his services.

Government Tanning School, Fatehpur—Training in tanning, curing and taxidermy continued to be given. The result of the school was cent per cent. Exhibits were sent to the—(1) Publicity Demonstration Van, (2) Gonda Exhibition and (3) Khadi and Industrial Exhibition, Lucknow. A demonstration party was also sent to Gonda Exhibition. The school staff continued to pay frequent visits to the colonies of local tanners and offered practical help to the local tanners on the spot.

Government Weaving and Cloth Printing School, Bulandshahr—In the Printing class, 9 students appeared for the final examination and all passed. In the Weaving class, 26 students appeared out of whom 17 came out successful. The school demonstrated in the local district exhibition and the students were awarded Rs.40 for good demonstration work and Rs.5 for medal of the school. The students were, this year, taught the new method of dyeing of indigenous dyes in cotton as well as wool.

Government Carpentry School, Dehra Dun—Seven students appeared at the final examination held in May, 1941, and all of them passed. Eight students of the school have joined Military Service since the present War broke out. At the request of Military authorities, training in carpentry has also been given to military soldiers.

Government Leather Working School, Meerut—Out of 13 candidates for the final examination, 8 passed. A demonstration party was sent to Muttra Exhibition. Amongst the students admitted this year, one is a graduate in science, two have passed High School Examination and four are Matric plucked. Twenty boot-makers and saddlers were trade tested in the school for war service and one candidate was admitted for technical training as saddler.

Government Model Weaving School, Khairabad (Sitapur)—Several new designs were worked out and introduced. For a new design in durrie weaving, a prize was awarded at the "Textile Design Competition" held at Government Central Textile Institute, Cawnpore, in February, 1941. A trial order for the manufacture and supply of 63,000 yards of different types of *newar* is being executed at the school.

Government Carpentry School, Naini Tal—Nine students appeared in the final examination and all got through. The school took part in the Kumaun Arts and Crafts Exhibition held in June, 1940, at Naini Tal, by putting up a separate court. The exhibits were appreciated by the public and the exhibition authorities awarded a cup to the school.

Government Carpentry School, Fyzabad—Eight boys took the final examination and all of them passed. The school participated in Industrial Exhibition, Akbarpur. The permanent Head Master (Mr. E. Bowen) died a sudden death through heart failure on 24th August, 1940.

CHAPTER VII

Stores Purchase Section

Organization—The Director of Industries and Commerce, United Provinces, continued to be the Stores Purchase Officer. Mr. H. N. Sapru, Divisional Superintendent of Industries, officiated for Mr. B. P. Agarwala, the permanent Assistant Director of Industries (Stores), who was on deputation to Indian Stores Department, for only 10 days during the year under report. On receipt of Government orders, Mr. H. N. Sapru, was relieved by Mr. M. Z. Rab, Divisional Superintendent of Industries who officiated for Mr. Agarwala till 20th December,

1940. From 21st December, 1940, Mr. Agarwala on reversion from the Indian Stores Department held the post till the end of the year. Mr. S. B. Naidu, Wood Technologist, Bareilly, acted as Furniture Expert till his sad death on 2nd February, 1941, after which date Mr. J. T. Dass officiated for him. Mr. H. B. Shroff acted as Textile Expert throughout the year. Mr. L. N. Srivastava acted as Leather Expert till 13th March, 1941. Mr. P. N. Bahadur officiated as Leather Expert with effect from 21st March, 1941.

General Remarks—The total value of stores purchased during the year was Rs.35,70,260 as against Rs.39,95,438 of the previous year. Full details of the articles purchased together with their values are given in Appendix IV. The values of stores both Indian and Foreign, purchased by the different departments are given in Appendix V. The value of textile stores purchased during the year decreased by Rs.2,72,716 as compared with that for the last year. Purchases of hardware and miscellaneous stores also decreased by Rs.3,57,116 while those of papers and stationery increased by Rs.2,04,654. Some purchases of Hydel stores continued to be made through the Stores Purchase Department during the year. Government have now passed final orders that certain classes of stores will be purchased by the Hydro-Electric Department direct.

There was a decrease of Rs.18,010 in the purchases made by local boards this year, the value being Rs.61,669 against Rs.79,679 of the previous year.

All the textile goods worth Rs.4,76,963 purchased through the department were of Indian manufacture. 32·83 per cent. of hardware and miscellaneous stores were of foreign manufacture against 30·39 of last year and 40·69 of 1938-39. The percentage of paper and stationery of foreign manufacture was only 9·19 against 12·54 of the last year.

Procedure—There was no material change in the system of inviting tenders and award of contracts. Penal action was taken against two firms as they failed to supply the articles in time. One firm was black-listed for 4 years and a sum of Rs.619-12 was recovered to meet the Government loss. In the other case, a penalty of Rs.250 was realized. The names of 97 new firms were added to the list of approved tenderers during the year. Twenty-six applications for registration were rejected.

Important Classes of Stores

(*a*) *Textile*—The total value of stores purchased during the year was Rs.4,76,963 against Rs.7,49,679 of the previous year. There was a general decrease in the value of textile goods. This was mainly pue to the fact that no contracts for woollen goods for the Police Dedartment could be made during the year as they could not be obtained

from any of the mills as the entire output of all the woollen mills was placed under the defence department for army supplies. There was a marked decrease of Rs.42,218 in the value of mosquito nets and long cloth. There was a decrease of about Rs.12,000 in the values of both yarn and absorbent cotton as compared with those for the last year.

(*b*) *Hardware and miscellaneous stores*—The total purchases under this head were Rs.20,08,931 against Rs.23,66,047 of the previous year. There were marked decreases of Rs.1,15,269 and of Rs.1,19,920 in the purchases of cement and electric goods respectively. There was a marked increase of Rs.1,46,780 in the purchase of pipes and fittings. There was also an increase of Rs.1,36,009 in the purchase of medicines and drugs during the year. All lanterns, disinfectants soaps, brushes, boot cream and metal polish purchased by the department were of Indian manufacture. The arrangement for the supply of indigenous medicines for village medicine chests was made for the first time by this department and goods worth Rs.15,038 were purchased.

(*c*) *Paper and stationery*—The total value of purchase was Rs.10,84,366 against Rs.8,79,712 of the previous year. No foreign paper was purchased during the year.

Substitution—The statement given below shows separately the percentages of stores of Provincial, Indian and Foreign manufacture purchased through the Stores Purchase Department during 1940-41 :

Stores	Indian		Foreign
	United Provinces	Other Provinces	
Textile	94·49	5·51	..
Hardware and miscellaneous	14·97	52·20	32·83
Paper and stationery	37·25	53·56	9·19
Furniture	100·00	..	..
Leather	100·00	..	..

The total value of work entrusted to jails excluding the Criminal Tribes Settlement was Rs.89,943 against Rs.1,09,056 of the previous year. The tailoring bill of the Criminal Tribes Settlement for the garments supplied to the Police Department amounted to Rs.28,565 against Rs.43,976 of the previous year. Stores of the value of Rs.9,200 were supplied by other Government institutions and Co-operative Societies.

Substitution of foreign articles by those of indigenous manufacture was constantly kept in view. 32·83 per cent. of foreign hardware and miscellaneous stores include pipes and fittings, manual training tools, tapes and refills, copper woven wire sheets, typewriters and duplicators, electrical goods, road dressing materials, cycles and their accessories, Scientific Instruments and Chemicals. 9·19 per cent. of stationery stores include certain superior articles which are not made in the country. 81·33 per cent. of typewriters and duplicators and 16·35 per cent. of road dressing materials were of Indian manufacture.

Utilization of Indian Stores Department Agency—The value of stores purchased through the agency of the Indian Stores Department was Rs.5,012 against Rs.34,729 of the previous year and the purchases comprised of the following :

Names of articles	*Value*
	Rs.
(1) Paints and varnishes	4,621
(2) Road Danger Signs	391
Total ..	5,012

Oils and Greases and Diesel oils were not obtained through the Indian Stores Department and hence the decrease in value.

Expenditure—The net expenditure on the Stores Purchase Section was Rs.16,614 and formed 0·51 per cent. of the total value of purchases made as against 0·69 per cent. in the previous year.

A statement of expenditure during the last five years is given below :

Items of expenditure	1936–37	1937–38	1938–39	1939–40	1940–41
	Rs.	Rs.	Rs.	Rs.	Rs.
Pay of officers	6,001	5,781	5,980	4,532	6,232
Pay of establishment	9,861	10,316	9,332	9,290	10,080
Allowances, etc.	1,507	1,796	1,451	1,235	1,531
Contingencies	1,899	2,280	2,803	14,774	2,961
Total ..	19,268	20,173	19,566	29,831	20,804
Realization of tender fees, etc. ..	1,662	2,044	2,970	2,264	2,440
Net expendtiure	17,606	18,129	16,596	27.567	18,364
Percentage of cost of the Department to purchases.	0·55	0·58	0·52	0·69	0·51

Miscellaneous—Direct purchases were generally authorized in all cases of urgency where no substitution was involved and the purchases could more conveniently be made by the indenting officers themselves. The prices of all articles specially of iron and steel remained uncertain during the year and the department felt great difficulty in effecting supplies of imported articles. Arrangements for several articles had to be decentralized due to abnormal conditions of the market and uncertainty of prices. The firms were reluctant to enter into rate or running contracts for imported materials. Deliveries of such articles were also uncertain due to restrictions in import. Government issued orders to all the Commissioners of the Province to the effect that they should keep a watch on the local bodies to see that their major requirements are, as far as possible, purchased through the Stores Purchase Department. The effect of this order has to be watched carefully as similar instructions in the past did not show any encouraging results. In view of the increase in work in Stores Purchase Office, Government sanctioned four posts on temporary basis till the end of the current financial year. The Stores Purchase Department worked in harmony with the indenting officers. Cases of delay in payment of firms' bills continued to occur and the department had sometimes to approach the heads of consuming departments with a view to expedite payments.

It is generally accepted that the system followed by the Stores Purchase Section of co-ordinating the requirements of various departments and inviting public tenders is the only effective means of encouraging the indigenous industry and of making purchases in the cheapest market.

A. N. SAPRU,

Director of Industries and Commerce,

United Provinces.

Emergencies.—Direct purchases were generally authorized in cases of urgency where no substitution was involved and the purchases could more conveniently be made by the indenting officers themselves. The prices of all articles, especially of iron and steel, ruled uncertain during the year and the [illegible] felt great difficulty in effecting supplies of imported articles. Arrangements for local articles had to be decentralized due to abnormal conditions in the market and uncertainty of prices. The [illegible] were reluctant to [illegible] rate or running contracts for imported materials. Deliveries of such articles were also uncertain due to restrictions on imports. [illegible] issued orders to Heads of Departments of the Province [illegible] that they should keep watch on the local market to see [illegible] their requirements [illegible] as possible [illegible] through Stores Purchase Department. The [illegible] did not have encouraging results. [illegible] in Stores Purchase Office, Government [illegible] the current financial year. The Stores [illegible] worked in harmony with the indenting officers. [illegible] in payment of firms' bills [illegible] to point out [illegible] with a view to expedite [illegible].

It is generally suggested that the system followed by the Stores Purchase [illegible] of consolidating the requirements of various departments and inviting public tenders is the only effective means of encouraging indigenous industries and of making purchases in the cheapest market.

V. N. SAPRU

Director of Industries and Commerce,

United Provinces.

APPENDICES

APPENDIX I

List of Aided Technical and Industrial Institutions in the United Provinces during 1940–41

Serial no.	Name of school	Subjects taught	Number of admissions	Number of students at close of the year	Length of course in years	Amount for stipends and scholarships	Number of candidates appearing in final examination	Percentage of success	Actual net expenditure	Grant-in-aid paid
1	2	3	4	5	6	7	8	9	10	11
						Rs.			Rs.	Rs. a. p.
	I—Carpentry Schools									
1	Carpentry School, Srinagar (Garhwal).	Carpentry	7	10	3 years	..	3	100	1,073	712 0 0
2	Carpentry School, Almora	Do.	15	22	3 ,,	937	6	100	3,646	1,667 0 0
3	Din Hitkarni Sabha Carpentry School, Jhansi.	Do.	10	22	3 ,,	..	2	100	2,752	1,307 0 0
4	Muslim Orphanage Carpentry School, Cawnpore.	Do.	5	17	3 ,,	..	3	66	6,042	550 0 0
5	Hadi Memorial School, Hardoi.	Do.	10	18	3 ,,	438	5	100	2,271	1,464 0 0
6	Dayanand Orphanage Carpentry School, Lucknow.	Do.	1	26	4 ,,	..	1	..	2,110	1,040 0 0

II—Weaving, Knitting and Tailoring Schools

1	St. Joseph's Orphanage Industrial Girls' School, Agra.	Needle work, crochet, flower-making, embroidery, sewing and cutting.		15	124	Not fixed	..	..	..	2,110	480 0 0
2	Weaving School, Ingohta (Hamirpur).	Dari and Newar ..		11	11	10 months	407	8	100	1,435	720 0 0
3	Weaving School, Gorakhpur.	Designing, Calculation practical weaving.		26	25	1 year	..	18	75	3,018	720 0 0
4	Weaving School, Orai (Jalaun).	Weaving, Designing, Dyeing and Arithmetic.		14	12	2 years	576	11	100	1,778	720 0 0
5	Weaving School, Kalpi (Jalaun).	Ditto		12	22	2 ,,	576	10	90	1,708	720 0 0
6	Weaving School, Powayan (Shahjahanpur).	Carpet weaving ..	..		5	1 year	..	..	..	1,056	720 0 0
7	Weaving School, Chhinka Gamsala, Garhwal.	Weaving and Spinning ..		20	13	1 ,,	..	2	100	817	600 0 0
8	Hewett Weaving School, Bara Banki.	Weaving		18	15	1 ,,	640	15	100	2,917	2,000 0 0
9	Municipal Tailoring and Cutting School, Bareilly.	Tailoring (Theory and Practice).		43	49	2 years	..	18	13	1,027	710 0 0
10	Muslim University Weaving School, Aligarh.	Weaving		14	14	2 ,,	..	6	100	1,243	780 0 0
11	Catholic Mission Weaving School, Partabgarh.	Do.		11	29	1 to 3 years.	..	7	71	1,947	524 0 0
12	Home for women in Distress, Benares (Kashi Anathalaya).	Artisan weaving, tailoring practical, newar and Izarband making.		3	15	5 to 6 years.	379	4	100	1,696	600 0 0
13	Weaving School, Dogadda (Garhwal).	Spinning, sizing, weaving, finishing, dyeing, designing and carpentry.		17	11	10 months.	..	8	100	1,368	480 0 0
14	Lal Kurti Hosiery School, Meerut.	Knitting and embroidery ..		12	12	1 year	440	12	92	2,156	680 0 0

APPENDIX I

List of Aided Technical and Industrial Institutions in the United Provinces during 1940-41—(continued)

Serial no.	Name of school	Subjects taught	Number of admissions	Number of students at close of the year	Length of course in years	Amount for stipends and scholarships	Number of candidates appearing in final examination	Percentage of success	Actual net expenditure	Grant-in-aid paid
1	2	3	4	5	6	7	8	9	10	11
						Rs.			Rs.	Rs. a. p.
15	District Board Weaving School, Gonda.	Weaving	22	17	1 year	..	7	14	1,405	710
16	Industrial School, Khamaria, Pilibhit.	Carpet and durrie weaving	17	17	2 years	..	3	100	503	360
17	Arya Samaj Tailoring School, Ganeshganj, Lucknow.	Cutting and sewing ..	38	43	1, 2 ,,	..	19	95	2,822	972
18	Municipal Board Weaving School, Muttra.	Weaving	10	10	2 ,,	262	8	100	1,983	720
	III—Leather Working Schools									
1	Municipal Leather Working School, Allahabad.	Boot and shoe-making, making of suit cases and other sundry articles.	33	42	2 ,,	774	7	100	8,468	4,112

2	Mason Leather Working School, Rudauli, Bara Banki.	Shoes and suit cases ..	13	14	2 ,,	..	5	60	3,619	1,342
3	Noorul Ullom Leather Working School, Bahraich.	Boot and shoe-making ..	16	16	2 ,,	50	4	100	1,590	600
	IV—Metal Working Schools									
1	Municipal Industrial School, Moradabad.	This has been closed.								
	V—Miscellaneous Industrial Schools									
1	C. M. S. Boys' Industrial School, Sikandra (Agra).	Printing, carpentry and tailoring.	10	23	3 ,,	..	..	..	17,216	1,200
2	A. P. Mission Industrial School, Saharanpur.	Building, carpentry, blacksmithy and tailoring.	17	53	3, 5, 3 years.	..	..	..	22,389	1,440
3	Hindu Orphanage, Cawnpore	Tailoring and carpentry ..	21	20	2, 3 years	27	..	..	589	400
4	Industrial School, Naugawan, Farrukhabad.	Tailoring, dyeing, printing and weaving.	28	39	2 ,,	350	16	100	3,029	1,520
5	Arya Samaj Orphanage Industrial School, Bareilly.	Carpentry, weaving and tailoring.	30	22	3, 2, 3 years.	..	5	100	3,109	1,200
6	Vaish Orphanage, Meerut	Tailoring and carpentry ..	42	42	5, 3 years	..	..	..	3,440	1,200
7	Chaube Gur Narain Trust Industrial School, Etawah.	Weaving and wire fitting	18	22	2 ,,	..	16	93·75	5,919	3,582
8	Wesleyan Mission Industrial School, Benares.	Carpentry, tailoring and gardening.	22	22	4, 3, 2 years.	..	9	100	18,725	2,400
9	Anjuman Islamia, Bareilly	Tailoring and carpentry ..	33	33	2, 2 years	..	3	100	4,660	600
10	Lal Singh Man Singh Industrial School, Mainpuri.	Carpentry, tarkashi, tailoring, Braille literature and caning of chairs by blinds.	38	42	2, 3, 7 years.	873	18	100	7,653	2,637

APPENDIX I

List of Aided Technical and Industrial Institutions in the United Provinces during 1940–41—(concluded)

Serial no.	Name of school	Subjects taught	Number of admissions	Number of students at close of the year	Length of course in years	Amount for stipends and scholarships	Number of candidates appearing in final examination	Percentage of success	Actual net expenditure	Grant-in-aid paid
1	2	3	4	5	6	7	8	9	10	11
						Rs.			Rs.	Rs. a. p.
11	Mumtaz Orphanage, Lucknow.	Boot and shoe making and carpentry.	30	30	3,5 years	144		..	1,879	540 0 0
12	Benares Hindu University Ceramic class, Benares.	Pottery ..	4	4	1 ,,	..	4	Result not out.	1,350	1,350 0 0
13	Model Industrial Technical College, Dayal Bagh Agra.	Mechanical and electrical Engineering. Automobile engineering and leather craft.	69	152	4,2, ,, +3	2,480	126	..	66,947	33,357 0 0
14	Muslim Orphanage, Meerut.	Carpentry and tailoring ..	12	12	5,3 ,,	..	12	100	42	420 0 0
15	Hindu Depressed classes Industrial School, Khurja, Bulandshahr.	Smithy, carpentry weaving and tailoring.	13	6	2 ,,	39	8	100	2,334	960 0 0

16	Industrial Classes attached to Sri Ram Industrial Orphanage, Lucknow.	Carpentry	1	24	3 ,,	..	1	100	1,363	652	10	6
17	All-India Shia Orphanage, Lucknow.	Suit case making, boot and shoe making, carpentry, weaving and tailoring.	39	74	3, 2 ,,	..	8	92	9,601	3,000	0	0
18	S. S. K. Industrial School, Moradabad.	Commerce, tailoring, brass and leather industry.	79	73	1, 2, 3, years	323	33	80	9,678	2,750	0	0
19	Mahananda Mission Harijan Vidy alay Industrial Scho ol, Ghaziabad.	Tailoring, painting, soap making, carpentry, durrie and carpet weaving.	113	105	1, 2, 3, 4, years	..	7	100	5,528	1,620	0	0
20	Ingraham Institute, Ghaziabad.	Weaving, carpentry and tailoring.	189	186	3 ,,	511	3	..	2,971	400	0	0
21	Municipal Mahila Shilp Bhawan, Allahabad.	Tailoring, knitting toy making, embroidery, fancy leather works, weaving and cane work.	39	54	2 ,,	..	8	87·5	10,544	2,500	0	0
22	Industrial School, Hardoi	Tailoring and weaving ..	3	44	2 ,,	..	13	Result awaited.	1,968	1,350	0	0
23	Prem Vidayala, Tarikhet, Almora.	Wool spinning and weaving and carpet making.	83	70	4 ,,	326	11	81	5,239	2,500	0	0
24	Ram Ashram Art School, Etah.	Tailoring, dyeing, printing fret work, hand spining.	32	31	2 ,,	52	12	66·6	1,248	561	4	0
		Total ..	1,428	1,814		10,604	505		2,69,971	94,149	14	6

APPENDIX II

Statement showing enrolment, examination results, employment and expenditure, etc. of Government Technical and Industrial Institutions during—1940–41

Serial number	Name of institute	Enrolment: Number of applications received for admission	Enrolment: Number of admissions made	Enrolment: Total on roll at the close of the year	Enrolment: Number of artisans and artisan boys on roll at the close of the year	Examination result: Number of students appearing at the examination	Examination result: Number of successful candidates: Division: First	Second	Third	Employment: Number of students who passed last year.	Employment: Number of students employed, working in factories and mills etc. and also running their business	Expenditure: Amount spent on stipends and scholarships: Stipends: Number	Stipends: Amount	Scholarships: Number	Scholarships: Amount	Net actual expenditure	Expenditure per capital	Budget grant
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
													Rs.		Rs.			
1	Harcourt Butler Technological Institute, Cawnpore.	35	24	18	..	13	..	11	2	21	20	6	230	18	3,774	76,493	2,549	1,02,352
2	Government Technical Institute, Lucknow.	245	73	101	..	48	10	22	15	14	11	42	3,100	24	2,491	58,568	569	62,889
3	Government Technical Institute, Gorakhpur.	330	88	227	10	49	4	10	20	36	28	54	3,323	5	610	42,669	263	45,731
4	Government Technical Intitute, Jhansi.	196	20	95	..	18	5	8	4	20	20	..	..	..	..	21,190	223	21,293
5	Government Central Textile Institute, Cawnpore.	520	387	438	329	33	4	9	17	21	17	24	929	12	1,190	78,732	772	2,52,933
6	Government Central Weaving Institute, Benares.	199	124	134	35	112	14	35	45	83	20	40	1,973	20	1,453	29,958	208	79,634
7	Government Weaving and Cloth Printing School, Bulandshahr.	51	27	24	3	35	4	5	17	26	13	17	746	2	30	12,389	516	12,996
8	Government Model Weaving School, Muzaffarnagar.	64	29	23	8	26	4	8	8	18	16	16	619	..	..	5,011	218	5,654

	Government Model Weaving School, Mau (Azamgarh).	158	48	38	14	33	22	6	3	31	21	13	516	..	..	4,320	114	5,242
	Government Model Weaving School, Najibabad, Bijnor.	24	21	15	5	12	1	4	3	8	8	13	392	..	..	3,972	195	5,070
	Government Model Weaving School, Khairabad (Sitapur).	20	15	11	10	15	10	2	2	14	10	9	396	..	..	4,457	405	5,052
12	Government Model Weaving School, Almora.	51	33	28	5	28	2	3	11	17	16	6	396	..	..	5,090	155	6,596
13	Government Central Wood Working Institute, Bareilly.	189	154	179	26	64	36	18	10	64	27	70	5,082	22	2,921	75,408	431	99,246
14	Government Carpentry School, Allahabad.	112	89	154	10	44	25	10	8	44	26	31	1,114	15	1,387	37,029	200	48,609
15	Government Carpentry School, Naini Tal.	20	14	36	10	9	3	4	2	10	6	34	1,637	4	100	8,286	276	8,984
16	Government Carpentry School, Dehra Dun.	17	16	25	2	7	..	5	2	6	3	..	..	19	550	6,091	218	71,420
17	Government Carpentry School, Fyzabad.	16	12	15	2	8	4	3	1	6	9	17	878	..	..	7,667	284	9,333
18	Government School of Arts and Crafts, Lucknow.	164	85	245	32	42	4	16	16	26	17	80	5,698	10	1,556	80,092	380	85,847
19	Government Batuk Prasad Khattri Industrial Institute, Benares.	20	14	51	46	8	..	1	7	7	7	22	1,540	14	816	12,276	270	13,160
20	Government Metal Working School, Aligarh.	62	41	63	21	25	3	13	9	20	15	15	639	..	..	15,903	186	16,649
21	Government Leather Working School, Cawnpore.	53	41	95	5	27	3	7	15	13	10	10	470	4	689	22,462	316	22,169
22	Government Leather Working School, Meerut.	37	19	51	5	13	..	3	5	8	6	15	532	8	500	11,275	221	12,783
23	Government Tanning School, Fatehpur.	15	10	20	12	11	1	6	4	10	6	16	546	..	..	7,294	273	7,380
	Total ..	2598	1,384	2,086	590	680	159	209	226	523	332	550	30,756	177	18,067	6,26,632	..	9,36,744

APPENDIX III

Progress report of the Spinning and Weaving Centres started under A. I. S. A. in the United Provinces

Name and full address of centres	Number of Spinners trained fully	Total amount of yarn spun by the spinners		Total amount of yarn pur-		Total cloth woven in	Total cloth Spinners got woven for selves	Number of persons who have become self reliant in the matter of cloth.
		Mds.	rs.	Mds.	rs.	Sq. yds.	Sq. yds.	
1. Bedai, pargana Sadabad (Muttra).	44	1	24	1	24	250	50	15
2. Kakrawali, pargana Etah (Etah).	67	2	35	0	32	690	561	19
3. Asafpur (Budaun) ..	40	0	26	0	20	32	582	15
4. Doharighat (Azamgarh)	176	10	20	9	27	1,809	421	15
5. Dudahi (Gorakhpur) ..	103	4	15	1	15	196	430	52
6. Simrauli, pargana Bhimmapur (Ghazipur).	51	3	4	3	4	792	336	50
7. Mohanganj, pargana Salon (Rae Bareli).	50	0	39	0	16	167	365	40
8. Narwal (Cawnpore) ..	130	5	24	2	19	191	..	50
9. Chirgaon (Jhansi) ..	140	4	12	1	29	120	995	20
10. Kusanilya, pargana Bankor (Jalaun).	150	5	27	1	20	60	872	20
11. Mahuwari, pargana Baluwa (Benares).	277	12	00	10	16	1,712	120	40
12. Tulapur, pargana Kachhawa (Mirzapur).	138	8	7	5	3	448	555	69
Total ..	1,366	59	33	38	35	6,467	5,817	415

APPENDIX

Statement showing the classes and values of goods purchased through the Stores Purchase Section during the year 1941

Serial no.	Names of articles	Value of articles manufactured in India		Value of imported articles purchased in India	Total
		In United Provinces	Outside United Provinces		
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
	I—TEXTILE GOODS				
	(a) Cotton				
1	Drill, different shades ..	95,164	..	..	95,164
2	Turban cloth, different shades ..	58,419	..	..	58,419
3	Twill, khaki and Mazri cloth ..	42,038	..	..	42,038
4	Dhoties	12,377	..	..	12,377
5	Tailoring of uniforms ..	49,141	..	..	49,141
6	Cotton yarn	90,418	..	..	90,418
7	Tents and tent cloth.. ..	44,244	..	..	44,244
8	Durries, basta cloth, dusters, net bags, union jacks, newar rope and cotton putties.	20,293	..	..	20,293
9	Absorbent cotton and gauze cloth, etc.	..	1,133	..	1,133
10	Hessian cloth and sacking twine	14,955	1,620	..	16,575
11	Chevrons and badges, blue fringes, braces pairs, handcuff ropes, kullah caps, kit bags, hats, belts, sashes and armlets for Civil Guards.	13,754	5,687	..	19,441
12	Sewing thread	..	8,082	..	8,082
13	Waterproof materials ..	..	3,105	..	3,105
14	Mosquito nets, long cloth, towel, dusuti and lining cloth.	368	6,668	..	7,036
	Total (cotton) ..	4,41,171	26,295	..	4,67,466
	(b) Woollen				
15	Stockings for Civic Guards ..	6,375	..	..	6,375
16	Blankets—chaukidar ..	2,055	..	..	2,055
17	Liveries cloth	1,067	..	..	1,067
	Total (Woollen) ..	9,497	..	..	9,497
	Total (Textiles) ..	4,50,668	26,295	..	4,76,963

APPENDIX IV

Statement showing the classes and values of goods purchased through the Stores Purchase Section during the year 1941–42—(continued)

Serial no.	Names of articles	Value of articles manufactured in India		Value of imported articles purchased in India	To
		In United Provinces	Outside United Provinces		
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
	II—HEADWARE AND MISCELLANEOUS STORES				
18	Cement	..	3,14,381	..	3,14,381
19	Iron and steel	..	58,458	..	58,458
20	Pipes and fittings, galvanized and black pipe, W. I. and cement pipes.	1,01,265	1,02,207	88,600	2,92,072
21	Wire nettings and wire fencings	809	8,602	..	9,411
22	Manual training tools and garden tools.	..	2,070	2,807	4,877
23	Beltings and manilla ropes ..	..	6,413	..	6,413
24	Tapes and refills	..	..	7,029	7,029
25	Dak bags	2,753	..	..	2,753
26	Copper woven wire sheets ..	..	..	29,824	29,824
27	Typewriters and Duplicators ..	..	48,994	11,246	60,240
28	Electric fans and lamps ..	3,649	39,849	228	43,726
29	Printing inks	..	2,674	..	2,674
30	Steel safes, steel racks and almirahs and locks.	11,144	570	..	11,714
31	Buttons and badges, etc. ..	3,646	..	..	3,646
32	Hurricane lantern and chimneys	105	690	..	795
33	Road dressing materials ..	..	86,771	4,43,890	5,30,661
34	Coaltar	..	1,289	..	1,289
35	Furniture, batons and bludgeons and wooden button sticks.	32,990	..	..	32,990

APPENDIX IV

Statement showing the classes and values of goods purchased through the Stores Purchase Section during the year 1940-41—(concluded)

Serial no.	Names of articles	Value of articles manufactured in India		Value of imported articles purchased in India	Total
		In United Provinces	Outside United Provinces		
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
36	Leather goods	48,415	..	..	48,415
37	Machinery—Bicycles and accessories.	..	..	8,192	8,192
38	Disinfectants, soaps, brushes, boot cream, metal polish and linseed oil.	12,864	2,613	..	15,477
39	Coal	..	1,23,633	..	1,23,633
40	Scientific instruments, chemicals and acids, etc.	53,119	26,450	67,747	1,47,316
41	Medicines and drugs, surgical instruments, etc.	29,905	2,23,040	..	2,52,945
	Total (Miscellaneous and Hardware).	3,00,664	10,48,704	6,59,563	20,08,931
	III—PAPER AND STATIONERY				
42	Paper for patwari forms ..	..	86,638	..	86,638
43	Water-marked paper	49,073	..	..	49,073
44	Other papers	3,39,423	4,24,648	..	7,64,071
45	General stationery	15,470	69,503	99,611	1,84,584
	Total (Paper and Stationery) ..	4,03,966	5,80,789	99,611	10,84,366
I	Textile	4,50,668	26,295	..	4,76,963
II	Hardware and miscellaneous ..	3,00,664	10,48,704	6,59,563	20,08,931
III	Paper and stationery ..	4,03,966	5,80,789	99,611	10,84,366
	Grand Total (I, II and III) ..	11,55,298	16,55,788	7,59,174	35,70,260
	Total Indian ..	28,11,086		..	..

APPENDIX V

Statement showing the value of stores purchased by different consuming departments during the year 1940-41

Serial no.	Name of Department	Indian	Foreign	Total
		Rs.	Rs.	Rs.
1	Irrigation Branch	3,98,327	47,259	4,45,586
2	Buildings and Road Branch	2,82,651	4,43,978	7,26,629
3	Police	2,87,808	4,452	2,92,260
4	Stationery	9,84,755	99,611	10,84,366
5	Jails	1,47,292	59	1,47,351
6	Agriculture	1,09,859	61,397	1,71,256
7	Education	72,813	36,836	1,09,649
8	Forest	30,337	2,841	33,178
9	Others	4,97,244	62,741	5,59,985
	Total ..	28,11,086	7,59,174	35,70,260